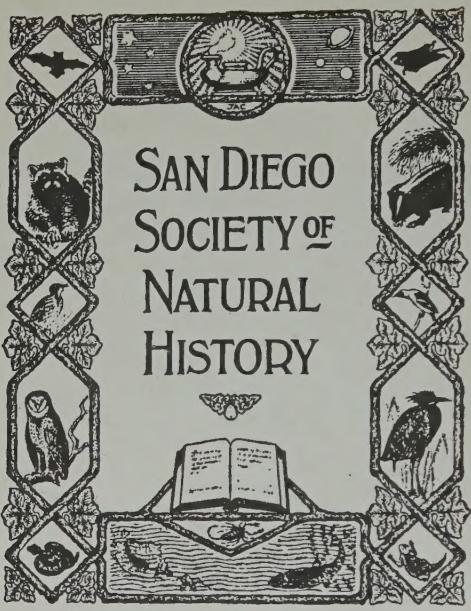

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FLORA OF NEBRASKA

A List of the Conifers and Flowering Plants of the State
With Keys for their Determination.

BY

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PREFACE

In making this list the aim has been to include all conifers and flowering plants, both native and introduced, which grow without cultivation in Nebraska. The known range of each species in the state is given, followed by a list of the localities from which it has been reported. These localities are mostly based on specimens in the herbarium of the University of Nebraska.

The arrangement of the larger groups is that of Dr. C. E. Bessey in his Synopsis of Plant Phyla. Within the families the order is usually that of Britton's Manual.

As this list contains no descriptions it should be used in connection with a descriptive manual. For this purpose Britton's Manual of the Flora of the Northern States and Canada is recommended as it is the only one covering the entire state. It is published by Henry Holt and Company, New York.

Each group is preceded by analytical keys and at the beginning of the book keys to the orders will be found. The aim has been to make these as simple and non-technical as possible. As the number of plants treated is much smaller than in the larger manuals the keys should be much easier to use. In order to make it easy to find the descriptions, after the name has been found by the keys, the page in Britton's Manual where the genus is treated is given after the name of each genus, thus Bromus 148.

Names of orders end in -ALES and of families in -ACEAE and may thus be recognized without repeating order or family before each. Synonyms are given where a different name is used than the one in Britton's Manual or when a different name is used in the New Gray's Manual.

In the appendix some of the structures most commonly used to distinguish flowering plants from each others will be described. It is hoped that will be more useful for beginners than a glossary of special terms.

I wish to express my thanks to Dr. C. E. Bessey for advice and assistance while doing the work; to Rev. J. M. Bates and Dr. H. Hapeman for allowing me to examine their collections of Nebraska plants; to Dr. P. A. Rydberg for looking over part of the manuscript and making valuable suggestions; to Miss Venus Pool for suggestions in making the keys to the grasses.

N. F. PETERSEN.

Louisiana State University,
September, 1911.

KEY TO THE ORDERS.

Ovules and seeds borne on the surface of a scale or bract; stigmas wanting. **Phylum STROBILOPHYTA.**
Ovules and seeds borne in a closed cavity, the ovary; stigmas present. **Phylum ANTHOPHYTA.**

Phylum STROBILOPHYTA.

Only one order represented in the state. **CONIFERALES: 5.**

Phylum ANTHOPHYTA.

Seeds with one cotyledon; fibrovascular bundles of the stem scattered; parts of the flowers usually in 3's or 6's; leaves mostly parallel veined. **Class. 1. MONOCOTYLEDONEAE.**
Seeds with two cotyledons; fibrovascular bundles of the stem forming a ring around a central core of pith; parts of the flowers rarely in 3's or 6's; leaves mostly net-veined. **Class. 2. DICOTYLEDONEAE.**

Class 1. MONOCOTYLEDONEAE.

Ovary superior.
Perianth of two series, the inner usually corolloid.
Carpels distinct. **ALISMALES: 6.**
Carpels united; i. e. ovary compound. **LILIALES: 9.**
Perianth reduced to scales or bristles, or wanting, never corolloid.
Flowers not in the axils of dry, chaffy bracts.
Plants with normal stems and leaves.
Aquatics, wholly submerged or the upper leaves floating.
Carpels separate. **LILIALES: 9.**
Carpels united. **ALISMALES: 6.**
Terrestrial plants or if aquatics not submerged. **ARALES: 15.**
Plants with stems reduced to leaf-like structures, called thalli; leaves wanting. **ARALES: 15.**
Flowers in the axils of dry or chaffy bracts. **POALES: 17.**
Ovary inferior.
Aquatic plants with submerged fruits. **HYDRALES: 48.**
Terrestrial plants, or if aquatic fruits not submerged.
Flowers regular. **IRIDALES: 48.**
Flowers irregular. **ORCHIDALES: 49.**

Class 2. DICOTYLEDONEAE.

I **Ovary superior.**
A. Corolla present.
a A **Petals distinct.**
B Carpels solitary, or several and distinct, or united only at the base.
Stamens borne at the base of the receptacle.
Herbs of moist places or xerophytic shrubs. **RANALES: 51.**
Xerophytic herbs with succulent leaves. **Sedum: 142.**

Stamens borne on the margin of a disc or hypanthium.
ROSALES: 122.

B' Carpels several and united.
Stamens borne at the base of the receptacle.
Stamens numerous, more than twice as many as the petals.
Stamen filaments distinct.
Aquatics with floating leaves. Nymphaeaceae: 56.
Terrestrial plants or if aquatic leaves not floating.
RHOEODALES: 57.
Stamen filaments united.
Filaments united into a tube around the styles.
MALVALES: 89.
Filaments in several sets, not forming a tube.
Trees. MALVALES: 89.
Herbs or shrubs. GUTTIFERALES: 86.
Stamens few, not more than twice as many as the petals.
Stamens as many as the petals and opposite them.
Flowers monoecious. Euphorbiaceae: 83.
Flowers perfect. Portulaceae: 69.
Stamens as many as the petals and alternate with them, or more; often twice as many.
Stamens 6, rarely 2, petals 4. RHOEODALES: 57.
Stamens as many as the petals or twice as many.
Ovary one celled.
Placentae central or basal. CARYOPHYLLALES: 64.
Placentae parietal. GUTTIFERALES: 86.
Ovary several celled.
Stamens not adnate to the gynoecium.
Filaments partly or wholly united.
GERANIALES: 80.
Filaments distinct.
Ovules numerous in each cavity of the ovary.
ERICALES: 94.
Ovules few or solitary in each cavity of the ovary.
Flowers regular. GERANIALES: 80.
Flowers irregular. Aesculus: 154.
Stamens adnate to the gynoecium. Asclepiadaceae: 107.
Stamens borne on the margin of a disk or hypanthium.
Stamens as many as the petals and opposite them.
Styles distinct, ovules numerous. Heuchera: 142.
Styles united, ovules 1 or 2 in each cavity of the ovary.
CELESTRALES: 151.
Stamens as many as the petals and alternate with them or more.
Hypanthium flat or obsolete, not enclosing the ovary.
Ovary one celled, fruit a small drupe.
Anacardiaceae: 154.
Ovary 2-several celled, fruit a dehiscent pod or capsule.
CELESTRALES: 151.
Hypanthium enclosing the ovary but free from it.
Lythraceae: 143.

A' Petals more or less united.

Stamens free from the corolla or diadelphous.
Gynoecium of a single carpel. **ROSALES: 122.**
Gynoecium of 2-several united carpels.
Filaments united, diadelphous, some of the sepals spurred. **Papaveraceae: 57.**
Filaments distinct or sepals not spurred.
Herbs with green leaves. **GERANIALES: 80.**
Shrubs or saprophytic herbs. **ERICALES: 94.**
Stamens partially adnate to the corolla.
Stamens as many as the lobes of the corolla and opposite them, or more; ovary 1 celled. **PRIMULALES: 92.**
Stamens as many as the lobes of the corolla and alternate with them, or fewer.
Corolla scarious, marcescent, fruit a pyxis in our species. **Plantaginaceae: 93.**
Corolla not scarious, fruit not a pyxis.
Flowers regular or stamens five.
Ovary 1-celled, with central placentae, or carpels distinct or nearly so. **GENTIANALES: 106.**
Ovary usually 2–3-celled, if one celled with parietal placentae. **POLEMONIALES: 95.**
Flowers irregular or fertile stamens only 4 or 2, except in Verbascum.
Fruit 1-4 seeded, usually separating into 1-seeded nutlets. **LAMINALES: 116.**
Fruit a 6-many seeded capsule. **SCROPHULALES: 110.**

B. Corolla wanting.

Flowers, at least the staminate, in aments.
Fruit a one-seeded nut or achene. **SAPINDALES: 154.**
Fruit a many seeded capsule, seeds with a tuft of hairs. **Salicaceae: 68.**
Flowers, at least the staminate, not in aments.
Gynoecium of one or of several distinct carpels, each with a single style.
Carpels several.
Stamens inserted below the carpels. **RANALES: 51.**
Stamens inserted on the margin of a disk or a hypanthium **ROSALES: 122.**
Carpel solitary.
Ovary not enclosed in a hypanthium.
Land plants. **MALVALES: 89.**
Submerged aquatics, flowers solitary in the axils. **Ceratophyllaceae: 57.**
Ovary enclosed in a hypanthium.
Shrubs or trees, calyx not corolloid. **Eleagnaceae: 153.**
Herbs, calyx corolloid. **Nyctaginaseae: 70.**
Gynoecium of 2 or more united carpels; if one celled styles and stigmas more than one.
Herbs.
Flowers perfect; stamens several. **CARYOPHYLLALES: 64.**

Flowers monoecious or dioecious or with only one stamen. **MALVALES: 89.**

Trees or vines.

Ovary 1-celled, fruits, if samaras, winged all around. **MALVALES: 89.**

Ovary 1-celled, fruits samaras with terminal wings.

Samarás single, oar-shaped. **Fraxinus: 106.**

Samaras in pairs. **Aceraceae: 154.**

II **Ovary inferior.**

Aquatics with whorled leaves. **MYRTALES: 143.**

Terrestrial plants, or if aquatic, leaves not whorled.

Corolla wanting.

Trees. **SAPINDALES: 154.**

Herbs. **Comandra: 153.**

Corolla present.

Petals distinct.

Stamens numerous, more than twice as many as the petals.

Stems fleshy, usually very spiny, leaves small or wanting. **CACTALES: 149.**

Stems normal with normal leaves. **Loasaceae: 149.**

Stamens not more than twice as many as the petals.

Fruit a pyxis. **Portulacaceae: 69.**

Fruits various but not a pyxis.

Ovules 2 or more in each cavity of the ovary.

Vines with tendrils. **Cucurbutaceae: 150.**

Herbs, shrubs, or trees, not tendril bearing

Fruit a berry or a fleshy pome. **ROSALES: 122.**

Fruit a capsule or nut-like, petals mostly 4. **MYRTALES: 143.**

Ovules solitary in each cavity. **UMBELLALES: 158.**

Petals more or less united.

Filaments free from the corolla. **CAMPANULALES: 166.**

Filaments adnate to the corolla.

Ovary with 2 or more ovules.

Vines with tendrils. **Cucurbitaceae: 150.**

Plants without tendrils. **RUBIALES: 163.**

Ovary with a single ovule. **CAMPANULALES: 166.**

FLORA

Phylum STROBILOPHYTA

Class PINOIDEAE.

CONIFERALES.

The conifers.

Leaves in clusters surrounded by a sheath at the base, mature cones woody. **Pinus.**
Leaves not in clusters, scale-like, mature cones berry-like. **Juniperus.**

ABIETACEAE.

Pinus 31.

1. **Pinus ponderosa** var. **scopulorum** Engelm. **Yellow or Bull Pine.**
Pinus scopulorum (Engelm.) Lemmon.
This is our only native pine. It forms the bulk of the woods in the northwestern part of the state.—Banner County; Belmont; Cheyenne County; Custer County; Fort Robinson; Greeley County; Sidney; Valley County.

JUNIPERACEAE.

Juniperus 36.

Shrubs; leaves all subulate; aments axillary. **1. J. communis.**
Trees; some of the leaves scale-like; aments terminal.
Berry 1–4 seeded, ripening the first season. **2. J. virginiana.**
Berry usually 2-seeded, ripening the second season; foliage glaucous. **3. J. scopulorum.**

1. **Juniperus communis** L. **Common Juniper.**
A xerophytic shrub of the western part of the state.—Belmont; Hat Creek Basin; Harrison.
2. **Juniperus virginiana** L. **Common Red Cedar.**
Sabina virginiana (L.) Antoine.
Common along streams in the eastern part of the state. Often planted for wind-breaks or as an ornamental tree. Anselmo; Franklin; Fremont; Long Pine.
3. **Juniperus scorpulorum** Sarg. **Western Red Cedar.**
Sabina scopulorum (Sarg.) Rydb.
Along streams and in canons in the western part of the state. A handsomer tree and less affected by the cedar apple than the common red cedar, thus a more desirable tree to plant.

Phylum ANTHOPHYTA

The flowering plants.

Class MONONCOTYLEDONEAE

The monocots.

ALISMALES.

Perianth of two series.
  The inner series corolloid; the outer green. **1. Alismaceae.**
  Both series alike. **2. Scheuchzeriaceae.**
Perianth of a single series or wanting. **3. Potamogetonaceae.**

1. ALISMACEAE.

Carpels in several series on a convex receptacle.
  Some or all of the flowers perfect.
    Calyx spreading, achenes scarcely compressed. **1. Echinodorus.**
    Calyx closed over the fruits, achenes strongly compressed. **2. Lophotocarpus.**
  Flowers monoecious or dioecious. **3. Sagittaria.**
Carpels in a single series on a flat receptacle. **4. Alisma.**

1. Echinodorus. 54.

1. Echinodorus cordifolius (L.) Griseb.
Abundant in a pond at Nemaha.

2. Lophotocarpus. 55.

1. Lophotocarpus calycinus (Engelm.) Smith.
In Lake Kearney; Greenwood.

3. Sagittaria. 56.

Arrow-heads.

Leaves sagittate with large basal lobes.
  Basal lobes of the leaf-blades not longer than the blade proper.
    Beak of the achene at right angle to the body, one-fourth as long as the body, or more. **1. S. latifolia.**
    Beak erect, short.
      Bracts lanceolate, 8–20 mm. long; petioles short, leaves seldom floating. **2. S. arifolia.**
      Bracts ovate-lanceolate, 4–6 mm. long; petioles very long, blades floating or none. **3. S. cuneata.**
  Basal lobes of the leaf-blades 2–3 times as long as the blade proper. **4. S. longiloba.**
Leaves not sagittate; basal lobes, if any, small.
  Pistillate flowers sessile or nearly so. **5. S. rigida.**
  Pistillate flowers not sessile. **6. S. gramineae.**

1. Sagittaria latifolia Willd.
Common in muddy places or in shallow water all over the state. A

very variable species and has been divided into several forms by J. G. Smith. Cody; Kearney; Lincoln; Long Pine; Minden; Thedford;

2. Sagittaria arifolia Nutt.
In the sand-hill region. Mullen; Wood Lake.

3. Sagittaria cuneata Sheldon.
(Sometimes included in **Sagittaria arifolia** Nutt.)
In shallow water in the western part of the state. Cherry County; Thedford.

4. Sagittaria longiloba Engelm.
Near Minden.

5. Sagittaria rigida Pursh.
Sagittaria heterophylla Pursh
In wet places and shallow water over most of the state. Ewing; Greenwood; Kennedy; Lincoln; Neligh.

6. Sagittaria graminea Michx.
In muddy places and shallow water in the eastern part of the state. Holt County; Lincoln; Mead; Minden.

4. Alisma. 54.

1. Alisma plantago-aquatica L. **Water-plantain.**
Common in mud or shallow water over most of the state. Alliance; Anselmo; Callaway; Cherry County; Homesville; Newark; Peru; Plainview; Wood Lake; Valentine.

2. SCHEUCHZERIACEAE.

Triglochin. 52.

1. Triglochin maritima L. **Arrow-grass.**
In marshes in various places in the state. Alliance; Burwell; Newark; Sand bars of the Niobrara; Thedford.

3. POTAMOGETONACEAE.

Flowers perfect, usually on elongated peduncles.
  Perianth segments 4; fruiting peduncles straight. **1. Potamogeton.**
  Perianth wanting; fruiting peduncle coiled. **2. Ruppia.**
Flowers monoecious, flower clusters sessile or short peduncled. **3. Zannichellia.**

1. Potamogeton. 41.

Pondweeds.

With both floating and submerged leaves.
  Stipules axillary and free from the leaves.
    Submerged leaves bladeless, about 2 mm. wide. **1. P. natans.**
    Submerged leaves with proper blades.
      Upper submerged leaves much broader and shorter than the lower. **2. P. amphifolius.**
      Upper submerged leaves not very different from the lower.
        Floating leaves gradually narrowed into short petioles, foliage and spikes reddish. **3. P. alpinus.**
        Floating leaves abruptly narrowed into long petioles.
          Floating leaves pointed at the base; fruit distinctly 3-keeled, the middle keel often winged. **4. P. lonchitis.**
          Floating leaves rounded or cordate at the base, fruit indistinctly keeled. **5. P. heterophyllus.**

Stipules adnate to the base of the leaves.
Peduncles of the submerged spikes 4-6 mm. long. **10. P. diversifolius.**
Peduncles of the submerged spikes not over 2 mm. long. **11. P. spirillus.**

With submerged leaves only.
Leaves with broad clasping blades. **6. P. richardsonii.**
Leaves narrow or capillary blades.
Stipules free from leaves.
Stem flattened.
Leaves 5-20 cm. long, 2-4 mm. wide. **7. P. zosterifolius.**
Leaves 2-6 cm. long, 1 mm. or less wide, **8. P. foliosus.**
Stem filiform; leaves 7 mm. wide. **9. P. pusillus.**
Stipules adnate to the base of the leaves.
Stem flattened; stigma broad, sessile. **13. P. interior.**
Stems filiform; stigma capitate, style evident.
Fruit not keeled. **12. P. pectinatus.**
Fruits prominently keeled. **14. P. interuptus.**

1. Potamogeton natans L.
In ponds and streams throughout the state.

2. Potamogeton amphifolius Tucherm.
In streams and ponds, mostly in the eastern part of the state. Atkinson; Cedar County; Grant County; Lincoln; Neligh.

3. Potamogeton alpinus Balbis.
Reported only from Cass County.

4. Potamogeton lonchitis Tuckerm.
Potamogeton americanus C. & S.
In ponds and streams throughout the state. Anselmo; Atkinson; Cedar County; Minden; Neligh; Norway; Thedford.

5. Potamogeton heterophyllus Schreb.
Kennedy.

5a. Potamogeton heterophyllus graminifolius (Fries.) Morong.
In the North Loup River in Cherry County.

6. Potamogeton richardsonii (Benn.) Rydb.
Potamogeton perfoliatus richardsonii A. Bennett.
Reported only from the northwestern part of the state. Atkinson; Whitman.

7. Potamogeton zosterifolius Schum.
In ponds or streams. Fremont; Greeley Center; Neligh.

8. Potamogeton foliosus Raf.
Common in ponds and streams. Lincoln; Long Pine; Neligh; Paddock; Thedford; Valentine.

9. Potamogeton pusillus L.
In ponds and streams in the sand-hills. Atkinson; Crawford; Swan Lake; Thedford.

10. Potamogeton diversifolius Raf.
Potamogeton hybridus Michx.
Lincoln; Springview.

11. Potamogeton spirillus L.
Potamogeton dimorphus Raf.
Lincoln.

12. Potamogeton pectinatus L.
Common in the sand-hill regions. Alliance; Crawford; Kennedy; Thedford; Valentine; Whitman.
13. Potamogeton interior Rydb.
Nebraska according to Gray's manual.
14. Potamogeton interuptus Kitaibel.
In the mill-pond at Neligh.

2. Ruppia. 49.

1. Ruppia occidentalis Watson.
In salt or alkaline ponds. Alliance; Sheridan County.

3. Zannichellia. 50.

1. Zannichellia palustris L.
In ponds throughout the state. Banner County; Broken Bow; Cody's Lakes; Lincoln; Simeon.

LILIALES.

Perianth segments, at least the inner, corolloid.
  Perianth segments all corolloid.
    Stamens 6, all alike. **1. Liliaceae.**
    Stamens unlike or only 3. **2. Pontederiaceae.**
  Perianth segments unlike, the inner corolloid; the outer green.
    Leaves whorled or ovules numerous. **1. Liliaceae.**
    Leaves not whorled; ovules usually 2 in each cavity. **3. Commelinaceae.**
Perianth segments scaly, green or brown, or wanting.
  Land or marsh lands with a scaly perianth. **4. Juncaceae.**
  Submerged water plants, perianth often wanting. **5. Naiadaceae.**

1. LILIACEAE.

Herbs, not climbing.
  Styles distinct. **1. Zygadenus.**
  Styles united, or short or wanting.
    Sepals and petals nearly alike.
      Plants with bulbs or corms.
        Flowers in umbels with scarious involucres.
          Ovules 2 in each cavity of the ovary, foliage onion scented. **3. Allium.**
          Ovules many in each cavity of the ovary, foliage not onion scented. **4. Nothoscordium.**
        Flowers not in involucrate umbels.
          Anthers attached near the middle, versatile. **5. Lilium.**
          Anthers attached near the base, not versatile.
            Stems leafy, leaves several. **6. Fritillaria.**
            Leaves 2, basal. **7. Erythronium.**
      Plants without bulbs or corms, often with root-stocks.
        Leaves basal, root-stock short and erect or none.
          Plants with a single flower. **2. Leucocrinum.**
          Plants with many flowers. **9. Yucca.**
        Stems leafy, root-stocks horizontal, elongated.
          Real leaves scaly, appearent leaves filiform branches. **10. Asparagus.**

Leaves normal.
Flowers terminal or in terminal clusters.
Flowers several to many in a terminal raceme. **11. Vagnera.**
Flowers 1-3 in a simple umbel. **12. Disporum.**
Flowers axillary or in axillary clusters. **13. Salomonia.**
Sepals and petals very unlike.
Leaves alternate, long and narrow. **8. Calochortus.**
Leaves whorled, ovate. **14. Trillium.**
Climbing vines, often woody. **15. Smilax.**

1. Zygadenus. 257.

Ovary partly inferior, perianth segments with obcordate glands. **1. Z. elegans.**
Ovary superior, glands ovate or semiorbicular. **2. Z. nuttallii.**

1. Zygadenus elegans Pursch.
Common in the northwestern part of the state. Gordon; Fort Robinson; Sioux County; Rushville.
2. Zygadenus nuttallii (A. Gray.) S. Wats.
Along Pumpkinseed Creek in the western part of the state.

2. Leucocrinum. 261.

1. Leucocrinum montanum Nutt. **Sand Lily.**
Common in the sand-hills in the western part of the state. Chadron; Cheyenne County; Fort Robinson; Frontier County; McCook; Gordon; Perkins County.

3. Allium. 262.

Outer coat of the bulb membranous, not fibrous.
Umbel nodding. **1. A. cernuum.**
Umbel erect. **2. A. stellatum.**
Outer coat of the bulb fibrous.
Ovary and capsule not crested.
Umbel composed largely of bulblets. **3. A. canadensis.**
Umbel with few or no bulblets.
Scape usually over 3 dm. tall; pedicles over 15 mm. long. **4. A. mutabile.**
Scape usually less than 2 dm. tall; pedicles less than 15 mm. long. **5. A. nuttallii.**
Ovary and capsule crested. **6. A. reticulatum.**

1. Allium cernuum Roth. **Nodding Wild Onion.**
In prairies in the northern part of the state. Ewing; Pine Ridge.
2. Allium stellatum Ker. **Prairie Wild Onion.**
In prairies in the northwestern part of the state. Belmont; Pine Ridge; Sioux County.
3. Allium canadensis L.
Common in prairies in the eastern part of the state. Crete; Cushman; Emerson; Grand Island; Lincoln; Wood River.
4. Allium mutabile Michx. **Common Wild Onion.**
Common in meadows and prairies throughout the state. Antelope County; Callaway; Crete; Central City; Lincoln; Ponca; St. Paul.

5. Allium nuttallii S. Wats.
Common in sand-hills. Long Pine; Loup City; Neligh.
6. Allium reticulatum Don.
In the northwestern part of the state. Box Butte County; Deuel County.

4. Nothoscordium. 264.

1. Nothoscordium bivalve (L.) Britton. **False Garlic.**
In the southeastern part of the state. Crete.

5. Lilium. 264.

Flowers erect, leaves mostly alternate. **1. L. umbellatum.**
Flowers drooping, leaves mostly verticillate. **2. L. canadensis.**
2. Lilium unfallatum Pursh. **Western Wild Lily.**
Lilium philadelphicum var. **andium** (Nutt.) Ker.
Common in wet valleys in the sand-hills. Neligh; Newport; Pullman; Watts Lake in Cherry County.
2. Lilium canadense L. **Yellow wild lily.**
In woods in the eastern part of the state. Dukeville; Otoe County; Weeping Water.

6. Fritillaria. 266.

1. Fritillaria atropurpurea Nutt.
Rare in the northwestern part of the state. Fort Robinson; Lavaca; War Bonnet Canon.

7. Erythronium. 266.

Flowers yellow, inner perianth lobes auricled at the base.
1. E. americanum.
Flowers not yellow, perianth segments not auricled.
Flowers white or pinkish, corm producing offsets at the base.
2. E. albidum.
Flowers bluish or lavendar; corm not producing offsets.
3. E. mesochoreum.

1. Erythronium americanum Ker. **Yellow adder's tongue.**
Rare in the eastern and southern part of the state. Franklin County; Lincoln; Peru.
1. Erythronium albidum Nutt. **Dog's Tooth Violet.**
Fairly common in woods in the southeastern part of the state. Lincoln; Plattsmouth; Saltillo; Weeping Water; Wymore.
3. Erythronium mesochoreum Knerr.
Rare in ravines along the Missouri.

8. Calochortus. 267.

Anthers obtuse; glands not broader than long. **1. C. nuttallii.**
Anthers acute; glands broader than long. **2. C. gunnisonii.**

1. Calochortus nuttallii T. & G. **Mariposa Lily.**
In woods in the northwestern part of the state. Belmont; Fort Robinson; War Bonnet Canon.
2. Calochortus gunnisonii S. Wats. **Mariposa Lily.**
In woods in the northwestern part of the state. Belmont; Fort Robinson; Hat Creek Basin; Squaw Canon.

9. Yucca. 269.

1. Yucca glauca Nutt. **Bear grass, Spanish bayonets.**
Common in sand-hill regions. Alliance; Antelope County; Banner County; Foster; Broken Bow; Scotts Bluff; Sheridan and Sioux Counties.

10. Asparagus. 270.

1. Asparagus officinalis L. **Asparagus.**
Often escapes from cultivation. Black Island of Platte River; Lincoln.

11. Vagnera. 271.

Inflorescence panculate, flowers 2 mm. long. **1. V. racemosa.**
Inflorescence racemosa, flowers 4 to 5 mm. long. **2. V. stellata.**

1. Vagnera racemosa (L.) Morong.
Smilacina racemosa (L.) Desf.
Along streams in the eastern part of state. Homer; Lincoln; Newcastle; Weeping Water.
2. Vagnera stellata (L.) Morong.
Smilacina stellata (L.) Desf.
Woodlands and thickets throughout the state. Anselmo; Belmont; Emerald; Guide Rock; Hat Creek Basin; Lincoln; Ponca River; Saltillo; Thedford.

12. Disporum. 272.

1. Disporum trachycarpum (S. Wats.) B. & H.
In the northwestern part of the state. Hat Creek Basin; War Bonnet Canon.

13. Salomonia. (Polygonatum.) 273.

Perianth 10 to 12 mm. long, filaments inserted towards summit of perianth. **1. S. biflorum.**
Perianth 12 to 30 mm. long, filaments inserted near the middle of the perianth. **2 S. commutata.**

1. Salomonia biflorum (Walt.) Britton. **Hairy Solomon's Seal.**
In woods along streams. Cass County; Franklin.
2. Salomonia commutata (R. & S.) Britton. **Solomon's Seal.**
Common in woodlands along streams except in the western part of the state. Nebraska City; Norway; Ponca; Weeping Water.

14. Trillium. 274.

1. Trillium nivale Riddell. **Wake-robin.**
Rare along the Missouri River. Bellevue; Weeping Water.

15. Smilax. 275.

Stems herbaceous, without prickles. **1. S. herbacea.**
Stems woody, perennial, with prickles.
Leaves glaucous. **2. S. glauca.**
Leaves not glaucous. **3. S. hispida.**

1. Smilax herbacea L. **Carrion-flower.**
Common on wooded bluffs. Bellevue; Fremont; Hooker County; Lincoln; Milford; Nebraska City; St. James; Thomas County; Glen; Grand Island; Valentine.

2. Smilax glauca Walt.
Republican River near Franklin.
3. Smilax hispida Muhl. **Green Brier.**
Common in woods all over the state. Crete; Grand Island; Lincoln; Omaha; St. James; Tecumseh; Weeping Water.

2. PONTEDERIACEAE.

Heteranthera. 243.

Leaves rounded, petioled.
  Spathe several flowered. **1. H. reniformis.**
  Spathe 1 flowered. **2. H. limosa.**
Leaves linear, sessile. **3. H. dubia.**

1. Heteranthera reniformis R. & P.
Nebraska, according to Britton's Manual.
2. Heteranthera limosa (Sw.) Willd.
Common in mud or shallow water. Fairmont; Lincoln; Minden; Plainview; Sheridan County.
3. Heteranthera dubia (Jacq.) Mac. M.
Submerged aquatic of still water. Elm Creek; Glen Rock; Kearney; Neligh.

3. COMMELINACEAE.

Petals unequal, perfect stamens 3 or 2. **1. Commelina.**
Petals equal, perfect stamens 6 or 5. **2. Tradescantia.**

1. Commelina. 239.

Sheaths glabrous or nearly so. **1. C. crispa.**
Sheaths hirsute. **2. C. virginica.**

1. Commelina crispa Wooton.
Nebraska, according to Britton's Manual.
2. Commelina virginica L.
In the sand-hill regions. Knox County; Long Pine; Sheridan; Thedford.

2. Tradescantia. 240.

Flowers 1 to 5 cm. broad. **1. T. scopulorum.**
Flowers 2 to 3 cm. broad.
  Bracts lanceolate, broader than the leaves. **2. T. bracteata.**
  Bracts linear, narrower than the leaves. **3. T. occidentalis.**
1. Tradescantia scopulorum Rose.
Thedford.
2. Tradescantia bracteata Small.
Ainsworth; Callaway; Ewing; Inman; Lincoln; Red Cloud.
3. Tradescantia occidentalis Britton.
Common all over the state. Anselmo; Central City; Box Butte County; Kearney; Lincoln; Newcastle; Pine Ridge; Thedford.

4. JUNCACEAE.

Juncus. 244.

Inflorescence apparently lateral.
  Perianth green or straw-colored, seeds 0.5 mm. long. **1. J. filiformis.**

Perianth partly brown, seeds 1 mm. long. **2. J. balticus.**
Inflorescence evidently terminal.

Leaves not septate.
Flowers bibracteolate, not in true heads.
Annuals, inflorescence one-third the length of the plant. **3. J. bufonius.**
Perennials, inflorescence not one-third as long as the plant.
Auricle at the top of the sheath prolonged beyond the point of insertion, often 2 mm. long. **4. J. tenuis.**
Auricles scarcely prolonged beyond point of insertion.
Auricles membranous, whitish, perianth scarcely spreading. **5. J. interior.**
Auricles cartilaginous, yellow or yellowish brown, perianth spreading. **6. J. dudleyi.**
Flowers not bibracteolate; in true heads.
Stamens 3.
Petals setiform; acuminate at the apex. **7. J. setotus.**
Petals obtuse or slightly mucronate. **8. J. marginatus.**
Stamens 6. **9. J. longistylus.**
Leaves septate.
Branches of the inflorescence short, rarely more than twice the diameter of the heads.
Heads 7-8 mm. in diameter; petals usually longer than the sepals. **10. J. nodosus.**
Heads over 10 mm. in diameter; sepals longer than the petals. **11. J. torreyi.**
Braches of the inflorescence long, many times as long as diameter of the heads. **12. J. richardsonianus.**

1. Juncus filiformis L.
Reported from Banner County.
2. Juncus balticus Willd.
On sand-bars and sandy margins of lakes and streams. Alliance; Broken Bow; North Platte; Valentine; Wood River.
3. Juncus bufonius L. **Toad Rush.**
Common in wet places in the sand-hills. Banner County; Custer County; North Platte; Pine Ridge; Sheridan County; Valentine.
4. Juncus tenuis Willd. **Slender Rush.**
Common in wet meadows throughout the state. Banner County; Broken Bow; Crete; Hat Creek Basin; Hooker County; Kennedy; Lincoln; Weeping Water.
5. Juncus interior Wiegand.
Boelus; Red Cloud; Riverton.
6. Juncus dudleyi Wiegand.
Common in meadows over most of the state. Callaway; Gordon; Long Pine; Loup City; Scotia; Thedford; Wood River; Wymore; Valentine.
7. Juncus setosus (Coville) Small.
Juncus marginatus setosus Coville.
Reported only from Long Pine.
8. Juncus marginatus Rostk.
In moist places mostly in the sand-hills. Brewster; Dismal River; Ewing; Long Pine; Minden; Valentine.

9. Juncus longistylus Torr. & Gray.
In meadows in the western part of the state. Ewing; Sheridan County; Valentine.
10. Juncus nodosus L.
Common, often forming a sod in wet meadows. Anselmo; Boelus; Long Pine; Thedford; Valentine.
11. Juncus torreyi Coville.
Common in wet soil all over the state. Anselmo; Ainsworth; Chadron; Haigler; Lincoln; Long Pine; Louisville; Minden; Mullen; Pine Ridge.
12. Juncus richardsonianus Schult.
Juncus alpinus insignis Fries.
Rare in the sand-hill regions. Long Pine.

5. NAIADACEAE.

Naias. 50.

Seeds shining with 30-50 rows of faint reticulations. **1. N. flexilis.**
Seeds dull, with 16-20 rows of strongly marked reticulations. **2. N. guadalupensis.**

1. Naias flexilis (Willd.) Rost. & Schmidt.
Found mostly in the clear streams of the sand-hill regions. Cherry County; Greenwood; Wood Lake.
2. Naias guadalupensis (Spreng.) Morong.
In a lake near Whitman.

ARALES.

Stems normal, with normal leaves.
  Flowers in a spike or spadix.
    Spike fleshy, i. e. a spadix; flowers not accompanied by bristles; fruit a berry. **1. Araceae.**
    Spike not fleshy; flowers accompanied by bristles; fruit not a berry. **3. Typhaceae.**
  Flowers in globular heads. **2. Sparganiaceae.**
Stems reduced to a leaflike structure, called a thallus; leaves absent; whole plant submerged or floating. **4. Lemnaceae.**

1. ARACEAE.

Scape not leaflike, flowers monoecious, leaves compound. **1. Arisaema.**
Scape leeaflike, flowers perfect, leaves simple. **2. Acorus.**

1. Arisaema. 229.

Leaves with three segments. **1. A. triphyllum.**
Leaves with more than three segments. **2. A.dracontium.**

1. Arisaema triphyllum (L.) Torr. **Jack-in-the-pulpit. Indian Turnip.**
Moist places in woods in the eastern part of state. Crete; Fremont; Lincoln; Milford.
2. Arisaema dracontium (L.) Schott.
In similar places as last, but less common. Crete; Saltillo; Weeping Water.

2. Acorus. 231.

1. Acorus calamus L. **Sweet Flag, Calamus.**
In swamps along the Missouri in the southeast corner of the state. Nebraska City.

2. SPARGANIACEAE.

Sparganium. 39.

1. Sparganium eurycarpum Engelm. **Bur-reed.**
Common in wet places and in shallow water. Anselmo; Belmont; Cherry County; Cedar County; Kearney; Lincoln; Peru; Thedford; Valentine.

3. TYPHACEAE.

Typha. 38.

1. Typha latifolia L. **Common Cat-tail.**
Common along streams, ditches and in wet ground. Alliance, Anselmo; Belmont; Lincoln; Norway; Peru; Thedford; Wahoo.

4. LEMNACEAE.

Rootlets several. **1. Spirodela.**
Rootlets not more than one.
  Rootlets usually present, thallus over one mm. long. **2. Lemna.**
  Rootlet wanting, thallus less than one mm. long. **3. Wolffia.**

1. Spirodela. 232.

1. Spirodela polyrhiza (L.) Schleid. **Greater Duckweed.**
Common on the surface of ponds and slow streams. Anselmo; Fremont; Lincln; Long Pine; Thedford; Valentine.

2. Lemna. 232.

Duckweeds.

Thallus with a stalk-like projection at the base.
  Stalk long, thallus 5 to 15 mm. long. **1. L. trisulca.**
  Stalk short, thallus less than 5 mm. long. **2. L. perpusilla.**
Thallus not stalked.
  Thallus nearly symmetrical, green or purplish beneath. **3. L. minor.**
  Thallus unsymmetrical, pale beneath. **4. L. gibba.**

1. Lemna trisulca L.
Common in ponds throughout the state. Ashland, Cherry County; Fremont; Greenwood; Harrison; Newark; Thedford.
2. Lemna perpusilla Torr.
Thomas County.
3. Lemna minor L.
Common on the surface of ponds or slow streams. Anselmo; Banner County; Cherry County; Holt County; Long Pine; Pine Ridge; Valentine.
4. Lemna gibba L.
In ponds in the sand-hill regions. Kennedy; Merriman; Thomas County.

3. Wolffia. 233.

1. Wolffia punctata Griseb.
  Wolffia brasiliensis Weddell.
In ponds, rare. Bellevue; Long Pine.

POALES. (GRAMINALES.)

Leaves 3 ranked, with closed sheaths; stems usually solid; fruit an achene. **1. Cyperaceae.**
Leaves 2 ranked, with open sheaths; stems usually hollow; fruit a cariopsis. **2. Poaceae.**

1. CYPERACEAE.

The sedges.

The sedges are closely related to the grasses which they resemble so much that they are often confused with them. Most sedges prefer a moist soil but a few are xerophytic. In low meadows they often furnish a large part of the forage, but are inferior to the true grasses for hay and pasture. Some sedges are called "wire-grass" by farmers.

Flowers of the spikelets all, or at least one of them perfect, achene not in a closed perigynium.
  Perianth of scale-like sepals.
    Sepals 3 petal-like. **1. Fuirena.**
    Sepals single, hyaline. **2. Hemicarpha.**
  Perianth of bristles or wanting; not of scales.
    Scales of the spikelets spirally imbricated.
      Base of style persisting as a tubercle on the achene.
        Spikelets solitary. **3. Eleocharis.**
        Spikelets in a terminal umbel. **4. Stenophyllus.**
      Base of the style not persistent as a tubercle on the achene.
        Style swollen at the base; perianth none. **5. Fimbristylis.**
        Style not swollen at the base; perianth usually present.
          Bristles, if present, not long and hairlike. **6. Scripus.**
          Bristles long, hairlike. **7. Eriophorum.**
    Scales of spikelets in 2 ranks.
      Inflorescence axillary, perianth of bristles. **8. Dulichium.**
      Inflorescence terminal, perianth wanting. **9. Cyperus.**
Flowers monoecious or dioecious; achene in a perigynium. **10. Carex**

1. Fuirena. 182.

Perianth-scales awned at the tip. **1. F. squarrosa.**
Perianth-scales awned below the tip. **2. F. simplex.**

1. Fuirena squarrosa Michx.
Nebraska, according to Britton's Manual.
2. Fuirena simplex Vahl.
In wet soil mostly along streams. Kearney; Minden.

2. Hemicarpha. 183.

Scales brown, with short spreading or recurved tips. **1. H. michantha.**
Scales pale with squarrose awns equal to their own length. **1. H. micrantha var. aristulata.**

1. Hemicarpha micrantha (Vahl.) Pax.
In moist soil over most of the state; frequent on sand-bars. Atkinson; Cherry County; Fremont; Ewing; Long Pine; Minden.
1a. Hemicarpha micrantha aristulata Coville.
Long Pine.

3. Eleocharis. 167.

Achenes lenticular, style branches usually 2.
Annuals without rootstocks.
Achene black. **1. E. atropurpurea.**
Achene brown.
Bristles much longer than the achene. **2. E. ovata.**
Bristles about as long as the achene. **3. E. engelmanni**
Bristles rudimentary or wanting. **a. E. engelmanni detonsa.**
Perennials with horizontal rootstocks.
Culm stout, spikelet 6-25 mm. long. **4. E. palustris.**
Culm slender to filiform, spikelet 4-10 mm. long. **5. E. glaucescens.**
Achenes triangular, style branches 3.
Spikelets flattened, 3-9 flowered; rootstock filiform. **6. E. acicularis.**
Spikelets terete, many flowered; rootstock stout. **7. E. acuminata.**

1. Eleocharis atropurpurea (Retz.) Kunth.
Nebraska, according to Britton's Manual.

2. Eleocharis ovata (Roth.) R. & S.
In wet places in the eastern part of the state. Lincoln; Minden; Nebraska City.

3. Eleocharis engelmanni Steud.
Minden.

3a. Eleocharis engelmanni detonsa Gray.
Springview.

4. Eleocharis palustris (L.) R. & S.
Common in wet ground throughout the state. Arabia; Lincoln; Red Cloud; St. Paul; Springview; Thedford.

5. Eleocharis glaucescens (Willd.) Schultes.
Eleocharis palustris glaucescens (Willd.) A. Gray.
Common in wet places all over the state. Anselmo; Arabia; Basset; Bordeaux; Crawford; Ewing; Long Pine; Nattick; Pauline.

6. Eleocharis acicularis (L.) R. & S.
In wet places throughout the state. Anselmo; Bellevue; Deuel County; Lincoln; Lodge Pole Creek; Louisville; Minden; Nebraska City.

7. Eleocharis acuminata (Muhl.) Nees.
In wet places mostly in the western part of the state. Arabia; Ewing; Kennedy; Long Pine; Minden; Valentine.

4. Stenophyllus. 173.

1. Stenophyllus capillaris (L.) Britton.
In moist soil over most of the state, not common. Atkinson; Ewing; Minden.

5. Fimbristylis. 173.

1. Fimbristylis castenea (Michx.) Vahl.
In wet soil over most of the state. Franklin; along Horse Creek in Scotts Bluff County; Newark; Scotia Junction; Valentine.

6. Scirpus. 174.

Involucre of a single bract or wanting.
  Spikelets few, 1 to 7, appearing lateral.
    Culms terete, bristles none, annuals. **1. S. hallii.**
    Culms sharply triangular, bristles 2-4, perennials with rootstocks. **2. S. americanus.**
  Spikelets numerous, umbellate.
    Achene lenticular.
      Achene 2 mm. long nearly equalling the scale. **3. S. validus.**
      Achene 2.5-3 mm. long much exceeded by the scale. **4. S. occidentalis.**
    Achene triangular, bristles unequal, shorter than achenes. **5. S. heterochaetus.**
Involucre of two or more leaves.
  Spikelets large, 1-5 cm. long, 5-10 mm. thick.
    Achene lenticular, spikelets capitate. **6. S. interior.**
    Achenes sharply triangular, spikelets umbellate. **7. S. fluviatilis.**
  Spikelets small, 2-15 mm. long, 1-3 thick.
    Scales dark brown, one third longer than achene. **8. S. atrovirens.**
    Scales light brown, twice as long as the achene. **9. S. pallidus.**

1. Scirpus hallii Gray.
Not common. Holt County; Kennedy.

2. Scirpus americanus Pers.
Common in the western parts of the state. Anselmo; Aten; Broken Bow; Franklin; Hackberry Springs in Banner County; Hat Creek Basin; Louisville; Red Cloud; Thedford.

3. Scirpus validus Vahl. **Great bullrush.**
Scirpus lacustris L.
Common in marshes. Broken Bow; Cherry County; Lincoln; Nebraska City; Newcastle; Scotts Bluff County; Thedford; Wahoo; Valentine.

4. Scirpus occidentalis (Wats.) Chase.
Kearney; Thedford.

5. Scirpus heterochaetus Chase.
Nebraska, according to Britton's Manual.

6. Scirpus interior Britton.
Scirpus campestris Britton.
Alliance; Kearney County; in Lone Tree Lake near Kennedy; Laurel; Lincoln; Newark; St. James; Whitman.

7. Scirpus fluviatilis (Torr.) A. Gray. **River bullrush.**
In wet, marshy places over most of the state. Kennedy; Merriman.

8. Scirpus atrovirens Muhl.
Common in wet places. Beatrice; Lincoln; Minden; Nehawka; St. James; Weeping Water.

9. Scirpus pallidus (Britton) Fernald.
Scirpus atrovirens var. **pallidus** Britton.
Common in marshy places. Broken Bow; Crawford; Hitchcock County; Hooker County; Nebraska City; Talmage; Thedford; Wahoo.

7. Eriophorum. 180.

Leaves 1.5 mm. wide or less, spike in fruit not over 2 cm. long.
1. E. gracile.

Leaves 1.5-4 mm. wide, spike in fruit 2.5-4. 5 mm. long.
2. E. angustifolium

1. Eriophorum gracile Roth. **Slender Cotton Grass.**
In wet soil in the sand-hill regions. Kennedy; Lavaca; Simeon; Thedford.

2. Eriophorum angustifolium Roth.
Arabia; Kennedy.

8. Dulichium. 166.

1. Dulichium arundinaceum (L.) Britton.
In wet soil, not common. Bone Creek Valley; Endicott; Ewing; Kennedy.

9. Cyperus. 159.

Styles 2-cleft; achenes lenticular.
Styles long exserted; scales dull; stamens usually 3. **1. C. diandrus.**
Styles scarcely exserted; scales shiny; stamens mostly 3.
2. C. rivularis.

Styles 3-cleft; achenes 3-angled.
Annuals without corms or rootstocks.
Spikelets in simple umbels; stamen 1.
Tips of the scales awnlike, recurved. **3. C. inflexus.**
Tips of the scales not prolonged into awns. **5. C. acuminatus.**
Spikelets in compound umbels; stamens 3.
Wings of the rachilla persistent, embracing the achenes; spike-3-19 mm. long. **7. C. erythrorhizos.**
Wings of the rachilla persistent, embracing the achenes; spikelets terete, 5-18 mm. long. **8. C. speciosus.**
Perennials with corms or rootstocks.
With scaly tuber-bearing rootstocks. **6. C. esculentus.**
Without rootstocks, perennial by basal corms.
Achene 3-4 times as long as wide. **9. C. strigosus.**
Achenes about twice as long as wide.
Spikelets flat, in loose spikes at the ends of the rays of the umbels. **4. C. schweinitzii.**
Spikelets terete, or compressed, in capitate clusters on the rays.
Scales pale green. **10. C. filiculmis.**
Scales brown, shining. **11. C. houghtonii.**

1. Cyperus diandrus Torr.
Common along streams over most of the state. Callaway; Franklin; Kennedy; Long Pine; St. Paul; Valentine.

2. Cyperus rivularis Kunth.
Common in wet soil throughout the state. Minden; Nebraska City; Pishelville; Richardson County; Thedford; Valentine.

3. Cyperus inflexus Muhl.
Cyperus aristatus Rothb.
Occurs over the whole state, but most abundant in the sand-hills. Callaway; Franklin; Lincoln; Mullen; Pine Ridge; Red Cloud; Thedford.

4. Cyperus schweinitzii Torr.

Common in dry sandy prairies. Arapahoe; Broken Bow; Franklin; Foster; Louisville; Minden; Plummer Ford; Thedford.

5. Cyperus acuminatus Torr & Hook.

Common in moist soil over most of the state. Edgar; Ewing; Franklin; Lincoln; Loup City; Minden; Valentine.

6. Cyperus esculentus L.

Common in moist soil over most of the state. Callaway; Ewing; Kennedy; Lincoln; Wood Lake; Grand Rapids.

7. Cyperus erythrorhizos Muhl.

In wet soil in the eastern part of the state. Ewing; Lincoln; Niobrara River; Norfolk.

8. Cyperus speciosus Vahl.
Cyperus ferax Rich.

In marshes in the southeastern part of the state. Hardy; Lincoln; Republican Valley.

9. Cyperus strigosus L.

Over most of the state, common along streams in the sand-hills. Cody's Lake; Ewing; Nebraska City; Niobrara River; Republican; Thedford.

10. Cyperus filiculmis Vahl.

Fairly common in the eastern part of the state. Ewing; Hardy; Lincoln; Louisville; Minden; Nebraska City; Republican.

11. Cyperus houghtonii Torr.

Nattick.

10. Carex. 189.

Achenes mostly triangular, never lenticular, stigmas three.
Perigynia long-beaked—beak usually as long as body.
Perigynia gradually narrowed into a beak.
Perigynium not hard or leathery.
Beak without long stiff or spreading teeth, sometimes entire.
Beak 2-toothed.
Perigynia about 12 mm. long. **1. C. lupulina.**
Perigynia about 8 mm. long. **2. C. lurida.**
Beak entire. **29. C. durifolia.**
Beak with stiff, setaceous, or awn-like teeth.
Teeth short, little spreading. **3. C. hystericina.**
Teeth 1 mm. long, spreading. **4. C. comosa.**
Perigynia hard or leathery. **6. C. trichocarpa.**
Perigynia abruptly contracted into a beak.
Scales about as long as perigynium, spikes not globose. **17. C. longirostris.**
Scales about half as long as perigynium, spike globose. **5. C. squarrosa.**
Perigynia with short beaks, usually not more than half as long as the body; or beakless.
Perigynia with 2-toothed beaks.
Perigynia glabrous or nearly so.
Perigynia 2-3 mm. long, twice as long as scales. **39. C. rosea.**
Perigynia 4-5 mm. long, about as long as the scales.
Leaves pubescent, terminal spike staminate at the base. **16. C. davisii.**

Leaves glabrous, several of the upper spikelets staminate. **8. C. riparia.**

Perigynia pubescent.

Pistillate spikes large, 1-2.5 cm. long.

Leaves flat, 2-5 mm. wide. **9. C. lanuginosa.**

Leaves involute, about 1 mm. wide. **10. C. filiformis.**

Pistillate spikes small, usually less than 1 cm. long.

Staminate spike large, 1-2.5 cm. long. **27. C. pennsylvanica.**

Staminate spike small, 4-8 mm. long. **28. C. varia.**

Perigynia with entire beaks or beakless.

Perigynia 4-5 mm. long.

Pistillate spikes dense, many flowered. **18. C. grisea.**

Pistillate spike loose, few flowered. **19. C. amphibola.**

Perigynia usually not over 3 cm. long.

Spikes two or more, the upper staminate.

Pistillate spikes densely flowered or drooping.

Pistillate spikes drooping. **15. C. limosa.**

Pistillate spikes not drooping.

Bracts with long blades, much exceeding the subtended spikes.

Bracts mostly overtopping the spikes, perigynium strongly many nerved. **20. C. granularis.**

Bracts rarely overtopping the spikes, perigynium obscurely few nerved. **21. C. crawei.**

Bracts short, rarely over twice the length of the subtended spikes.

Perigynia about 3 mm. long. **23. C. meadii.**

Perigynia about 2 mm. long. **11. C. buxbaumii.**

Pistillate spikes loosely few flowered.

Pistillate spikes not globose, usually over 1 cm. long.

Tip of perigynia bent outward. **24. C. laxiflora.**

Tip of perigynia straight or nearly so.

Perigynia 3-4 mm. long. **22. C. oligocarpa.**

Perigynia 2 mm. long. **25. C. aurea.**

Pistillate spikes globose, 4-8 mm. long. **26. C. setifolia.**

Spikes solitary.

Spikes not overtopped by bracts **30. C. filifolia.**

Spikes overtopped by leafy bracts. **29. C. durifolia.**

Achenes lenticular, stigmas two.

Spikes unlike, the upper mostly or entirely staminate, the lower mostly pistillate.

Pistillate spikes densely flowered.

Orifice of perigynia entire or nearly so.

Lower sheaths prominently fibrilose, scales equal to perigynia in length. **12. C. stricta.**

Lower sheaths less fibrilose, scales longer than perigynia. **13. C. haydeni.**

Orifice of perigynia with 2 teeth. **14. C. nebraskensis.**

Pistillate spike few flowered. **25. C. aurea.**

Spikes alike or nearly so, all with both staminate and pistillate flowers.

Staminate flowers above the pistillate, rarely mixed with them.
Spikes forming a globose head.
Perigynia about 2 mm. long.
Beak entire, edges not serrate. **31. C. stenophylla.**
Beak 2-toothed, edges serrate. **42. C. cephalophora.**
Perigynia 3 mm. long, or more.
Scales half as long as perigynia. **41. C. cephaloidea.**
Scales as long as perigynia, or longer.
Scales 2-4 times as long as perigynia. **32. C. douglassii.**
Scales little longer than perigynia. **43. C. muhlenbergia.**
Spikelets not forming globose heads.
Perigynia over 3 mm. long, or scale only half as long as the perigynium.
Beak of Perigynium much longer than body, usually 2-4 as long.
Base of perigynium not thickened, beak about twice as long as body of perigynium. **33. C. stipata.**
Base of perigynium thickened, disc-like, beak 3-4 times as long as the body. **34. C. crus-corvi.**
Beak of perigynium short, about half as long as the body.
Scales equal to or longer than the perigynia.
Perigynium wing-margined. **43. C. muhlenbergia.**
Perigynium not wing-margined. **37. C. gravida.**
Scales about half as long as perigynia.
Leaves 1-3 mm. wide. **39. C. rosea.**
Leaves 4-9 mm. wide.
Perigynium wing-margined to the base, spikes not in heads. **40. C. sphagnoides.**
Perigynium wing-margined only above the middle, spikes approximate in cylindrical heads. **41. C. cephaloidea.**
Perigynia about 2 mm. long or less.
Spikes yellow or brown at maturity.
Leaves less than 2 mm. wide.
Beak of perigynium shorter than body. **35 C. marcida.**
Beak of perigynium as long as body. **36. C. teretiuscula.**
Leaves 2-5 mm. wide. **38. C. vulpinoides.**
Spikes green or greenish at maturity. **42. C. cephalophora.**
Staminate flowers below the pistillate, sometimes mixed with them in C. siccata.
Pergynia lanceolate, wing-margined.
Wings broad, scales as long as perigynia. **44. C. siccata.**
Wings narrow, scales shorter than perigynia.
Spikes oblong or oval.
Spikes blunt, greenish brown. **45. C. tribuloides.**
Spikes pointed, bright brown. **46. C. scoparia.**
Spikes subglob **47. C. cristatella.**

Perigynia ovate or orbicular, its body as wide as long.
Beak as long as body of perigynium. **48. C. straminea.**
Beak not over half as long as body.
Heads brownish achene sessile. **49. C. festucea.**

Heads silvery green or yellowish, achene stalked.
50. C. bicknellii.

1. Carex lupulina Muhl.
In swampy places mostly in the eastern part of the state. Callaway; Fremont Island.

2. Carex lurida Wahl.
In marshy places in the eastern parts of the state.

3. Carex hystricinus Muhl.
Common throughout the state in marshy places. Aten; Broken Bow; Central City; Lincoln; Red Cloud; Thedford; War Bonnet Canon; Valentine; St. Paul.

4. Carex comosa Boott.
Swampy places in the eastern part of the state. Beatrice; Kennedy; Simeon.

5. Carex squarrosa L.
Swampy places in the eastern part of the state. Lincoln.

6. Carex trichocarpa Muhl.
In wet meadows, especially in the eastern part of state. Often forming a sod. Ashland; Elmwood; Emerson; Minden; Nebraska City; Neligh.

7. Carex aristata R. Br.
Wet meadows in eastern part of state. Ashland; Kennedy; Mullen; Nemaha.

8. Carex riparia Curtis.
In the eastern part of the state. Callaway; Laurel; Otoe County; Scotia Junction.

9. Carex lanuginosa Michx.
In wet meadows throughout the state. Anselmo; Crawford; Nebraska City; Pine Ridge; Sheridan County; Thedford; Red Cloud; 20 miles south of Whitman.

10. Carex filiformis L.
Sod-forming in western parts of the state. Ashland; Custer County; Dawes County; Kearney County.

11. Carex buxbaumii Wahl.
Carex polygama Schkuhr.
Kirkwood, in Holt County.

12. Carex stricta Lam.
Wet meadows throughout the state except in the extreme western part. Emerson; Johnston; Lincoln; Minden; Norway; Valentine.

13. Carex haydeni Dewey.
Carex stricta var. decora Bailey.
Nebraska, according to Britton's Manual.

14. Carex nebraskensis Dewey.
Common in the western part of state. Arabia; Anselmo; Broken Bow; Callaway; Kennedy; Hat Creek Basin; Lawrence Fork; Mullen; Pine Ridge; Thedford; Valentine.

15. Carex limosa L.
Rare. Kennedy.

16. Carex davisii Schwein.
In eastern part of state. Lincoln; Otoe Co.

17. Carex longirostris Torr.
Moist places along streams. Dismal River; Nebraska City; along the Missouri in northeastern Nebraska; Fremont; Valentine.

18. Carex grisea Wahl.
In woods and meadows in eastern part of state. Ashland; Crete; Nebraska City.
19. Carex amphibola Steud.
Moist soil in the eastern part of the state. Nebraska City; Nemaha; Pauline.
20. Carex granularis Muhl.
In moist meadows, mostly in the eastern part of the state. Burwell; Fremont; Plummer Ford; Red Cloud; St. Paul.
21. Carex crawei Dewey.
Meadows and banks. Bassett; Central City; Kearney County; Loup City; Minden; Merriman; Oneil; Valentine.
22. Carex oligocarpa Schk.
In the southeastern part of the state. Nebraska City.
23. Carex meadii Dewey.
Throughout the state, except in the extreme western part. Broken Bow; Crete; Lincoln; Minden; Nebraska City; Oneil; Wood River.
24. Carex laxiflora Lam.
Most common in the eastern part of the state, especially along the Missouri. Bordeaux; Johnston; Long Pine; Hardy; Lincoln; Nebraska City; Pauline; Red Cloud.
24a. Carex laxiflora var. **varians** Bailey.
Nebraska City; Plummer Ford.
25. Carex aurea Nutt.
In the western part of state, mostly in the foot-hills. Fort Niobrara; Hat Creek Basin; Pine Ridge; Sioux County; Thedford; Valentine.
26. Carex setifolia (Dewey) Britton.
On bluffs, mostly along the Missouri. Fort Niobrara; Merriman; Scotia; Bluffs of Missouri in northeastern Nebraska.
27. Carex pennsylvanica Lam.
Common on the prairies except in the western parts of the state. Crete; Deuel County; Gordon; Nebraska City; Ponca; Thedford; Valentine.
28. Carex varia Muhl.
In the eastern art of the state, in wet soil. Fort Niobrara; Long Pine; Nebraska City.
29. Carex durifolia Bailey.
Long Pine.
30. Carex filifolia Nutt.
Western Nebraska, mostly in the foot-hill regions. Box Butte County; Fort Robinson; Deuel County; Gordon; Hitchcock County.
31. Carex stenophylla Wahl.
Mostly in the foot-hill regions of the extreme western part of the state. Crawford; Franklin; Fort Robinson; Minden; Riverton; Thedford.
32. Carex douglasii Boott.
In the western part of the state. Anselmo; Crawford; Kennedy; Sheridan County; Thedford; Valentine.
33. Carex stipata Muhl.
In wet soil over most of the state. Anselmo; Crete; Red Cloud; St. Paul; Thedford; Valentine.
34. Carex crus-corvi Shuttlw.
Wet soil in the southeastern art of the state. Lincoln; Nemaha.

35. Carex marcida Boott.
In dry soil in the western part of the state. Anselmo; Cody; Franklin; Mullen; Oneil; St. Paul; Red Cloud; Thedford.

36. Carex teretiuscula Gooden.
In the western part of the state. Burwell; Red Cloud; Thedford.

37. Carex gravida Bailey.
Common on the prairies throughout most of the state. Broken Bow; Callaway; Diller; Kearney County; Lincoln; Minden; Nebraska City; Nemaha; Ponca; Valentine; War Bonnet Canon.

38. Carex vulpinoidea Michx.
Throughout the state, common in wet meadows and swampy places in the eastern part. Anselmo; Bloomington; Elmwood; Nebraska City; Nemaha; Ponca; Oneil; Scotia; Talmage.

39. Carex rosea Schk.
In eastern part of state, common on bluffs of the Missouri. Fremont; Lincoln; Nebraska City; Ponca; Weeping Water.

40. Carex sparganioides Muhl.
In moist soil in the southeastern part of the state. Nebraska City.

41. Carex cephaloidea Dewey.
Hillsides and dry ravines in the eastern part of the state. Minden.

42. Carex cephalophora Muhl.
In the southeastern part of the state. Otoe County.

43. Carex muhlenbergia Schk.
Nebraska, according to Pound and Clement's Phytogeography of Nebraska.

44. Carex siccata Dewey.
In the sand-hills. Franklin; Minden; Pine Ridge; Thedford.

45. Carex tribuloides Wahl.
Long Pine; Nemaha.

46. Carex scoparia Schk.
Common on low, wet meadows. Ewing; Grand Island; Long Pine; Springview; Thedford.

47. Carex cristatella Britton.
Carex cristata Schwein.
Ewing; Loup City; Lincoln; Nebraska City; St. Paul; Wabash; Weeping Water.

48. Carex straminea Willd.
Minden; Neligh; Thedford; Valentine.

49. Carex festucacea Willd.
Common in moist or dry soil throughout the state. Anselmo; Beatrice; Ewing; Lincoln; Nehawka; Nebraska City; Oneil; Otoe County; Ponca; Valentine; Weeping Water.

50. Carex bicknellii Britton.
In the eastern part of the state. Ewing; Oneil.

2. POACEAE. (GRAMINACEAE).

The true grasses.

This is a very large family containing about 3,500 species. Economically it is the most important family of plants, at least in temperate regions. It includes many native and cultivated forage plants and all our cereals.

Key to the Tribes.

Spikelets or clusters of spikelets in two rows in spikes; sessile.
Spikelets in two approximate rows, forming a one-sided spike.
Flowering scales not hardened; empty scales keeled. **3. Chlorideae.**
Flowering scales hardened; spikelets flattened dorsally; empty scales not keeled. **6. Paniceae.**
Spikelets in two opposite rows. **2. Hordeae.**
Spikelets not in two rows; pediceled in panicles, spike-like panicles or racemes.
Spikelets 2 to many flowered; the lowest flower always perfect.
Flowering scales generally longer than the empty scales; awnless or straight awned at or near the apex. **1. Festuceae.**
Flowering scales shorter than the empty scales, usually with a bent dorsal awn. **4. Aveneae.**
Spikelets 1 or 2 flowered, when 2-flowered the lower staminate or rudimentary.
Palet keeled, similar to the flowering scale; empty scales small or wanting. **8. Oryzeae.**
Palet quite different from the flowering scale, empty scales usually present.
Flowers, at least some of them, perfect.
Spikelets alike, all with a perfect flower.
5th scale enclosing the flower, 3rd and 4th small, aften reduced to bristles. **5. Phalarideae.**
3rd or 4th scale enclosing the flower.
Flowering scales if indurated awned, the 3rd scale enclosing the flower. **7. Agrostideae.**
Flowering scales indurated, awnless; the 4th scale usually enclosing the flower. **6. Paniceae.**
Spikelets of two kinds, some perfect, and sessile, accompanied by 1 or 2 pediceled, staminate or rudimentary ones. **9. Andropogoneae.**
Flowers all staminate or pistillate; the staminate above the pistillate. **10. Maydeae.**

Tribe 1. Festuceae.

Styles short with plumose stigmas protruding at the sides of the scales; inflorescense various, not of axillary clusters.
Rachilla, if hairy, with hair much shorter than the flowering scales.
Flowering scales 5-many nerved.
Upper scales, if empty, narrow and not enclosing each other.
Flowers perfect.
Spikelets not in dense one-sided clusters.
Styles attached below the apex of the ovary; flowering scales usually over 6 mm. long. **1. Bromus.**
Styles attached to the tip of the ovary; flowering scales 6 mm. long or less.
Flowering scales rounded on the back.
Flowering scales without hairs at the base.

Flowering scales acute, pointed or usually awned at the apex. **2. Festuca.**
Flowering scales obtuse or hyaline at the apex.
Scales obscurely 5 nerved, styles none. **3. Puccinella.**
Scales distinctly 7 nerved, styles present. **4. Panicularia.**
Flowering scales with tufts of hair at the base. **5. Scolochloa.**
Flowering scales more or less keeled. **6. Poa.**
Spikelets collected in dense one-sided clusters. **7. Dactylis.**
Flowers dioecious, spikelets almost sessile. **8. Distichlis.**
Upper scales of the spikelet empty, broad and enclosing each others. **10. Melica.**
Flowering scales 1-3 nerved, or sometimes with a faint intermediate nerves.
Lateral nerves of the flowering scales glabrous.
Callus of the flowering scales glabrous.
Flowering scales leathery, seeds exserted. **9. Korycarpus.**
Flowering scale membranous, seeds not exserted.
Plants growing in water or very wet soil. **11. Catabrosia.**
Plants growing in dry or moist soil.
Inflorescence a contracted or spike-like panicle.
Second empty scale narrow, acute. **12. Koeleria.**
Second empty scale broad, rounded or obtuse at the apex. **13. Eatonia.**
Inflorescence an open panicle. **14. Eragrostis.**
Callus of the flowering scales pubescent with long hairs. **16. Redfieldia.**
Lateral nerves of the flowering scales hairy.
Spikelets sessile or nearly so on the primary branches of the inflorescence. **15. Diplanche.**
Spikelets on pedicels on the primary branches of the inflorescence.
Flowering scales with short teeth, the midrib excurrent as a short point. **17. Tricuspis.**
Flowering scale deeply 2-toothed, awned, awn longer than the teeth. **18. Triplasis.**
Rachilla hairy, hairs longer than the flowering scales. **19. Phragmites.**
Styles long, protruding at the end of the scales; stigmas not plumose; spikelets clustered in the axils. **20. Munroa.**

1. Bromus. 148.

Flowering scales with compressed keels. **1. B. breviaristatus.**
Flowering scales rounded on the back, at least below.
Second empty scale 5-7 nerved, the first 3 nerved.
Flowering scales nearly as wide as long. **2. B. brizaeformis.**
Flowering scales much longer than wide.
Flowering scales glabrous or nearly so.
Awn straight.
Sheath glabrous. **3. B. secalinus.**
Sheath pubescent. **4. B. racemosus.**

Awns bent at the base. - 5. B. squarrosus.
Flowering scales pubescent.
Awns 2-3 mm. long. 6. B. kalmii.
Awns 10 mm. long. 7. B. hordeaceus.
Second empty scale 3 nerved.
First empty scale 3 nerved. 8. B. porteri.
First empty scale 1 nerved.
Awns shorter than the flowering scales.
Inflorescence drooping, scales awned. 9. B. ciliatus.
Inflorescence not drooping, scales awnless or nearly so. 10. B. inermis.
Awns longer than the flowering scales. 11. B. tectorum.

1. Bromus breviaristatus (Hook.) Buckl.
Bordeaux; Belmont; Elmwood; Newcastle.

2. Bromus brizaeformis F. & M.
Lincoln.

3. Bromus secalinus L. **Cheat; Chess.**
Introduced in various places in the state as a weed. Crawford; Lincoln; Minden; Newcastle; Talmage; Wabash.

4. Bromus racemosus L.
Lincoln.

5. Bromus squarrosus L.
Introduced in a few places but not common. Alliance; Long Pine; St. Paul.

6. Bromus kalmii A. Gray.
In the foot-hill regions. Hat Creek Basin; War Bonnet Canon.

7. Bromus hordeaceus L.
Introduced but not very common. Long Pine; O'Neill.

8. Bromus porteri (Coulter.) Nash.
Common in the western parts of the state. Belmont; Franklin; Valentine.

9. Bromus ciliatus L.
Common throughout the state. Arapahoe; Belmont; Burwell; Cherry County; Halsey; Lincoln; Norfolk; Scotia; Thedford; Turkey Creek in Holt County.

10. Bromus intermis Leyss. **Smooth Brome Grass.**
Commonly cultivated and often escaes. Callaway.

11. Bromus tectorum L.
Introduced and becoming a common weed in various places in the state. Boelus; Brunswick; Lincoln; Minden; Sargent; Wisner.

2. Festuca. 145.

Empty scales firm, the second 3-5 nerved.
Leaves narrow, usually involute, less than 4 mm. wide.
Spikelets 6-13 flowered, annuals, stamens 2. 1. F. octoflora.
Spikelets 3-5 flowered, perennials, stamens 3. 2. F. ovina.
Leaves 4 mm. wide or more, flat.
Flowering scales over 5 mm. long, spikelets 5-9 flowered. 3. F. elatior.
Flowering scales 4 mm. or less, long, spikelets 3-5 flowered. 4. F. nutans.
Empty scales thin, more or less scarious, second scale 1 nerved or sometimes 3 nerved at the base.

Inflorescence open, its branches spreading. **5. F. scabrella.**
Inflorescence narrow and spikelike. **6. F. confinis.**

1. Festuca octoflora Walt. **Slender Fescue-grass.**
In dry sandy soil all over the state. Alliance; Ashland; Box Butte County; Broken Bow; Callaway; Kearney; Halsey; Lincoln; Thedford; Valentine.
2. Festuca ovina L. **Sheep's Fescue-grass.**
In prairies throughout the state. Box Butte County; Broken Bow; Lincoln; Thomas County; War Bonnet Canon.
3. Festuca elatior L. **Tall or Meadow Fescue-grass.**
Sometimes escapes from cultivation. Atkinson; Grand Island; Valentine.
4. Festuca nutans Willd.
In the eastern part of the state. Elmwood; Lincoln; Nebraska City; Fort Niobrara; Omaha; Nemaha; Ponca; Weeping Water.
5. Festuca scabrella Torr.
Custer County.
6. Festuca confinis Vasey.
Festuca watsoni Nash.
In the western part of the state. Crawford; Harrison.

3. Puccinellia. 145.

1. Puccinellia airoides (Nutt.) Wats. & Coult.
In western parts of the state. Belmont; Crawford; Cheyenne County; Lodge Pole; Long Pine.

4. Panicularia. (Glyceria). 142.

Second empty scale about 1 mm. long. **P. nervata.**
Second empty scale 2 mm. long or more. **P. americana.**
1. Panicularia nervata (Willd.) Kuntze.
Common in wet places, especially in the western parts of the state. Anselmo; Belmont; Emerson; Lincoln; Long Pine; Newark; Saunders County; Valentine.
2. Panicularia americana (Torr.) MacM.
Glyceria grandis Wats.
Frequent along streams in the sandhill regions. Callaway; Emerson; Mullen; Thedford.

5. Scolochloa. 142.

1. Scolchloa festucacea (Willd.) Link.
In marshy places in the western part of the state.

6. Poa. 87.

Annuals, rarely over 2 dm. tall. **1. P. annua.**
Perennials, usually taller.
Stems flattened. **9. P. compressa.**
Stems not flattened, round or nearly so.
Flowering scales with cobweb-like hairs at the base of the flowers.
Flowering scales with all 5 nerves prominent.
Branches of the inflorescence erect or spreading, with many spikelets. **4. P. pratensis.**

Branches of the inflorescence reflexed or drooping, with 2-4 spikelets.
Branches of the inflorescence few, single or in pairs.
5. P. reflexa.
Branches of the inflorescence many, in whorls of 4 to 7.
6. P. sylvestris.
Flowering scales with 3 prominent nerves, the intermediate faint or obsolete.
Branches of the inflorescence bearing spikelets above the middle.
4 dm. or less tall; panicle rarely over 15 cm. long.
2. P. nemoralis.
6-10 dm. tall; panicle over 20 cm. long. **3. P. flava.**
Branches of the inflorescence bearing spikelets only at the ends. **7. P. alsodes.**
Flowering scales without cobweb-like hairs at the base of the flowers.
Spikelets decidedly flattened; flowering scales acute.
8. P. pseudopratensis.
Spikelets but slightly flattened; flowering scales rounded at the apex.
Flowering scales scabrous all over. **10. P. confusa.**
Flowering scales scabrous above; strigose on the lower portion.
Flowering scales ovate, not longer than the empty scales.
11. P. pratericola.
Flowering scales oblong, longer than the empty scales.
12. P. buckleyana.

1. Poa annua L. **Low Spear Grass.**
Reported from Lincoln.

2. Poa nemoralis L.
In the western part of the state. Belmont; Johnstown.

3. Poa flava L.
Poa serotina Ehr.
Bordeaux; Chadron; Crawford; Dismal River.

4. Poa pratensis L. **Kentucky Blue-grass.**
Commonly cultivated but often escapes, especially in the eastern part of the state. Ashland; Halsey; Nemaha; Thedford; Valentine.

5. Poa reflexa V. & S.
Norfolk.

6. Poa sylvestris A. Gray.
Long Pine.

7. Poa alsodes A. Gray.
In woods in the northwestern part of the state. War Bonnet Canon.

8. Poa pseudopratensis Scrib. & Rydb.
In the western part of the state. Deuel County; Thedford.

9. Poa compressa L. **Canada Blue Grass.**
Over most of the state but not common. Basset; Chadron; Kennedy; Lincoln; Sheridan County.

10. Poa confusa Rydb.
Nebraska according to Rydberg's Flora of Colorado.

11. Poa pratericola Rydb. & Nash.
In dry prairies over most of the state. Belmont; Chadron; Crawford; Culbertson; Hardy; Harvard; Lincoln; Minden; Thedford.
12. Poa buckleyana Nash.
Belmont; Chadron; Crawford.

7. Dactylis. 136.

1. Dactylis glomerata L. **Orchard Grass.**
Sometimes escapes from cultivation. Lincoln; Minden; Valentine.

8. Distichlis. 135.

1. Distichlis spicata (L. Green. **Alkali Grass.**
In alkaline and saline soil, common throughout the state. Callaway; Curtis; Grand Island; Hardy; Kennedy; Lincoln; Minden; North Platte; Sioux County; Whitman.

9. Korycarpus. 13.

1. Korycarpus diandrus (Michx. Kuntze.
In deep woods in the southeastern part of the state. Weeping Water.

10. Melica. 133.

Culms over 8 dm. high sheaths glabrous. **1. M. nitens.**
Culms less than 8 dm. high sheaths scabrous. **2. M. porteri.**

1. Melica nitens Nutt.
Melica diffusa Purch.
Weeping Water.
2. Melica porteri Scribner.
Nebraska according to Rydberg's Flora of Colorado.

11. Catabrosa. 133.

1. Catabrosa aquatica (L.) Beauv.
In water or wet places mostly in the western part of the state. Cherry County; Dismal River; Long Pine; Sidney; Thedford.

12. Koeleria. 132.

1. Koeleria cristata (L.) Pers.
Common in prairies all over the state. Belmont; Broken Bow; Halsey; Hastings; Lincoln; Minden; Ponca; Saunders County; Sioux County; Valentine.

13. Eatonia. (Sphenopholis.) 132.

Second empty scales much wider than the flowering scales, rounded or truncate at the apex.
Intermediate nerves of the second empty scale prominent, leaves with prominent auricles. **1. E. rubusta.**
Intermediate nerves of the second empty scale faint, much less prominent than the lateral ones, auricles not prominent. **2. E. obtusata.**
Second empty scale not much wider than the flowering scales, obtuse or acute. **3. E. pennsylvanica.**

1. Eatonia robusta (Vasey) Rydb.
In the western part of the state. Mullen.

2. Eatonia obtusata (Michx.) A. Gray.
Common on prairies throughout the state. Belmont; Broken Bow; Crawford; Cherry County; Halsey; Hat Creek Basin; Kearney; Lincoln; Long Pine; Mullen; Plummer Ford; Thedford; Valley.
3. Eatonia pennsylvanica (D.C.) A. Gray.
Wooded bluffs, mostly in the eastern part of the state. Belmont; Fort Niobrara; Nemaha; Valentine; Valley of the Bow.

14. Eragrostis. 129.

Stems not creeping.
Annuals.
Spikelets 2-5 flowered, 2-3 mm. long. **1. E. capillaris.**
Spikelets 5-many flowered, 3-16 mm. wide.
Spikelets about 1 mm. wide. **2. E. pilosa.**
Spikelets over 1 mm. wide.
Spikelets 1.5 mm. wide. **3. E. purshii.**
Spikelets 2.5 mm. or wider. **4. E. major.**
Perennials.
Flowering scales less than 2 mm. long. **5. E. pectinaceae.**
Flowering scales, at least the lower, over 2 mm. long. **6. E.trichodes.**
Stems creeping.
Flowering scales 2 mm. long, glabrous. **7. E. hypnoides.**
Flowering scales 3-4 mm. long, pubescent. **8. E. capitata.**

1. Eragrostis capillaris (L.) Nees.
In the southeastern part of the state. Weeping Water.
2. Eragrostis pilosa (L.) Beauv.
Introduced but not common. Lincoln.
3. Eragrostis purshii Schrad.
Common in waste places, especially in the eastern half of the state. Broken Bow; Dukeville; Minden; Mullen; Plainview; Rushville; Weeping Water.
4. Eragrostis major Host. **Stink Grass.**
A common weed all over the state. Callaway; Culbertson; Halsey; Hooker County; Kearney; Mullen; Niobrara; Talmage; Thomas County; Brown County.
5. Eragrostis pectinacea (Michx) Steud.
Common in waste places except in the extreme western part of the state. Ainsworth; Callaway; Chelsea; Halsey; Lincoln; Long Pine; Minden; Republican Valley; Thomas County.
6. Eragrostis trichodes (Nutt.) Nash. **Blow-out Grass.**
Common in sandy places, often found in "blow-outs." Dismal River; Franklin; Halsey; Howard County; Keya Paha; Plummer Ford; Thedford; Valentine.
7. Eragrostis hypnoides (Lam.) B. S. P.
Wet places, mostly along streams in the eastern part of the state. Franklin; Glen Rock; Guide Rock; Lincoln; Neligh; Norfolk; Wahoo.
8. Eragrostis capitata (Nutt.) Nash.
Nebraska according to Britton's Manual.

15. Diplachne. 128.

1. Diplachne acuminata Nash.
Wet soil, frequent on sand-bars. Basset; Callaway; Kearney; Min-

den; Niobrara River; Thedford.

16. Redfieldia. 128.

1. Redfieldia flexuosa (Thurb.) Vasey.
A common grass of the sand-hill regions. Antelope County; Box Butte County; Dismal River; Keya Paha; Minden; Mullen; Thomas County; Valentine.

17. Triplasis. 127.

1. Triplasis purpurea (Walt.) Chapman. **Sand Grass.**
In ravines in the sand-hills. Long Pine; Minden; Plummer Ford; Rock County; Valentine.

18. Tricuspis. 126.

1. Tricuspis seslerioides (Michx.) Torr.
Tridens flavus (L.) Hitchc.
In the eastern part of the state. Richardson County; Red Cloud; Riverton; St. Paul.

19. Phragmites. 125.

1. Phragmites phragmites (L.) Karst. **Reed.**
Phragmites communis Trin.
In wet places and in shallow water throughout the state. Albright; Alliance; Halsey; Lincoln; Newark; Niobrara; North Platte; Plummer Ford; Valentine; Whitman.

20. Munroa. 125.

1. Munroa squarrosa (Nutt.) Torr.
Common in the sand-hills, often in "blow-outs." Belmont; Callaway; Crawford; Thedford; Valentine.

Tribe 2 Hordeae.

With 1 spikelet at each joint of the rachis.
  Spikelets with their sides turned towards the rachis. **1. Agropyron.**
  Spikelets with their edges turned towards the rachis. **2. Lolium.**
With several spikelets at each joint of the rachis.
  Spikelets 2-many flowered.
    Empty scales present forming an involucre around the cluster of spikelets.
      Rachis of the spike not readily breaking into joints, awns ascending or wanting, not widely spreading. **3. Elymus.**
      Rachis readily breaking into joints., awns of the empty scales wide spreading. **4. Sitanion.**
    Empty scales wanting or rudimentary. **5. Hystrix.**
  Spikelets with but 1 fertile flower, lateral spikelets often rudimentary and sterile. **6. Hordium.**

1. Agropyron. 153

No horizontal rootstocks or stolons, stems tufted.
  Awns erect or none, spikelets nearly terete, approximate on the axis.
    Awns usually as long as the scales.
      Spikes erect, 7-10 mm. wide, usually one-sided. **1. A. richardsonii.**
      Spikes nodding, about 5 mm. wide. **2. A. caninum.**
    Awns short or none.
      Spikes slender and lax, 7-20 cm. long, green. **3. A. tenerum.**

Spikes stout and dense, 3-8 cm. long, usually purplish. **4. A. violaceum.**
Awns spreading, spikelets flattened, remote on the rachis.
Empty scales awnless. **5. A. vaseyi.**
Empty scales awned. **6. A. gmelini.**
With horizontal rootstocks or stolons.
Spikelets spreading, much flattened, 7-13 flowered. **7. A. smithii.**
Spikelets erect slightly if at all flattened.
Flowering scales densely pubescent, spikelets 5-9 flowered. **8. A. daspstachyum.**
Flowering scales glabrous, 3-7 flowered. **9. A. pseudorepens.**

1. Agropyron richardsonii Schrad.
Lincoln, O'Neill; Valentine.

2. Agropyron canium (L.) R. & S.
In the western part of the state. Newark; Thedford; Whitman.

3. Agropyron tenerum Vasey. **Slender Wheat-grass.**
Common in the western part of the state. Belmont; Crawford; Dismal River; Hat Creek Basin; Kearney; Halsey; Newark; Newport; North Platte; Valentine.

4. Agropyron violaceum (Hornem.) Vasey. **Purplish Wheat-grass.**
In the foot-hills in the western part of the state. Box Butte County.

5. Agropyron vaseyi S. & S.
In the western part of the state. Chadron; Fort Robinson.

6. Arropyron gmelini Scribn. & Sm.
In the western part of the state. Chadron.

7. Agropyron smithii Rydb. **Western Wheat-grass.**
Agropyron spicatum Scribn. & Sm.
Common in prairies all over the state. Alliance; Bassett; Chadron; Halsey; Kearney; Lincoln; Minden; Neligh; Plummer Ford; Red Cloud; Thedford.

8. Agropyron dasystachyum (Hook.) Vasey.
In the western part of the state. Chadron; Glen.

9. Agropyron pseudorepens Scribn. & Sm.
In moist soil throughout the state. Anselmo; Belmont; Callaway; Kearney; Minden; Newcastle; Thedford; Valley County.

2. Lolium. 152.

Empty scale shorter than the 8-20 flowered spikelet.
Flowering scales 5–6 mm. long, awnless. **1. L. perenne.**
Flowering scales 7–8 mm. long, at least the upper awned. **2. L. italicum.**
Empty scales longer than the 5-7 flowered spikelets. **3. L. tomentulum.**

1. Lolium perenne L. **Ray-grass.**
Introduced in various places but not common. Fort Robinson; Lincoln; Valentine.

2. Lolium italicum R. Br. **Italian ray-grass.**
Lolium multiflorum Lam.
Lincoln.

3. Lolium tomentulum L. **Bearded darnel.**

3. Elymus. 156.

Flowering scales awned.
Spikelets spreading.
Awns of flowering scales less than 2 cm. long.
Empty scales narrowly awl-shaped, spikes slender. **1. E. striatus.**
Empty scales narrowly lanceolate, spikes stout.
Flowering scales glabrous. **2. E. virginicus.**
Flowering scales pubescent. **3. E. hirsutiglumis.**
Awns of flowering scales over 2 cm. long.
Spikes slender, peduncles long exserted.
Flowering scales hirsute. **4. E. canadensis.**
Flowering scales merely hispidulous. **6. E. brachystachys.**
Spikes stout, usually partly included at the base. **5. E. robustus.**
Spikelets appressed.
Empty scales acuminate to short awned; 3-6 flowered. **7. E. glaucus.**
Empty scales long awned; 1-3 flowered. **8. E. macounii.**
Flowering scale awnless. **9. E. condensatus.**

Elymus striatus Willd. **Slender Wild-rye.**
Throughout the state. Belmont; Callaway; Franklin; Long Pine; Plainview; Sioux County; Thomas County.
1a. Elymus striatus var. **Arkansanus** (Scrib. & Ball.) Hitchc.
Red Cloud; Weeping Water.
2. Elymus hirsutiglumis (Scribn. & Sm.)
Merriman; Nemaha; Red Cloud.
4. Elymus canadensis L. **Wild Rye.**
Common all over the state. Anselmo; Aten; Belmont; Broken Bow; Cherry County; Halsey; Hat Creek; Hardy; Kearney; Mullen; Red Cloud.
5. Elymus robustus Scribn. & Sm.
Common throughout the state. Box Butte County; Callaway; Halsey; Lincoln; Minden.
6. Elymus brachystachys Scribn. & Ball.
On dry plains in the western part of the state. Callaway; Ewing; Red Cloud; Wood Lake.
7. Elymus glaucus Buckl.
Culbertson; Lincoln; Mullen; Newcastle.
8. Elymus macounii Vasey.
In the eastern part of the state, not common. Cass County; Nehaway; O'Neill; Red Cloud; Fort Robinson; Whitman.
9. Elymus condensatus Presl.
In wet saline soil in the western part of the state. Glen; Newark; Nemaha; Valley County.

4. Sitanion. 155.

1. Sitanion elymoides Raf.
In dry soil in the western part of the state. Chadron; Scotts Bluff County; Sioux County.

5. Hystrix. 158.

1. Hystrix hystrix (L.) Millsp.
Hystrix patula Moench.
In the eastern part of the state, not common. Cass County; Nehawka; Northeast Nebraska; Wahoo; Weeping Water.

6. Hordium. 154.

Empty scales 3-6 cm. long. **1. H. jubatum.**
Empty scales 2 cm. or less long. **2. H. pusillum.**

1. Hordium jubatum L. **Squirrel-tail Grass.**
A common weed all over the state. Alliance; Aten; Bassett; Halsey; Hardy; Kearney; Kennedy; Lincoln; Minden; Nattick; Sioux County; Thedford; Chadron.
2. Hordium pusillum Nutt.
Common throughout the state. Lincoln; Thedford.

Tribe 3. Chlorideae.

Spikelets with several flowers. **1. Eleusine.**
Spikelets with one or rarely two perfect flowers.
Flowers perfect, spikes all alike.
Flowering scales 5 mm. or more long.
Tall marsh grasses; flowering scales not 3-toothed. **2. Spartina.**
Low grasses of dry prairies, flowering scales 3-toothed.
Spikes 1-4, usually over 15 mm. long. **4. Bouteloua.**
Spikes numerous, 12 or more, less than 15 mm. long. **5. Atheropogon.**
Flowering scales 3 mm. long or less.
Hydrophytes with broad spikes. **3. Beckmannia.**
Xerophytes with narrow, almost filiform spikes. **6. Schedonnardus.**
Flowers monoecious or dioecious, spikes very different. **7. Bulbilis.**

1. Eleusine. 124.

1. Eleusine indica (L.) Gaertn. **Crab-grass.**
Introduced but rare. Brunswick; Lincoln; Red Cloud.

2. Spartina. 120.

Spikelets over 10 mm. long, spikes over 5 cm. long. **1. S. cynosuroides.**
Spikelets less than 10 mm. long, spikes less than 5 cm. long. **2. S. gracilis.**

1. Spartina cynosuroides (L.) Willd. **Slough Grass.**
In wet places throughout the state, but most common in the eastern part. Cherry County; Halsey; Laurel; Lincoln; Mullen; Niobrara River; Saunders County; Whitman; Valentine.
2. Spartina gracilis Trin.
In saline marshes in the western part of the state. Crawford; Cheyenne County; Haigler; Sheridan; Simeon.

3. Beckmannia. 123.

1. Beckmannia erucaeformis (L.) Host.
In wet places in the western part of the state. Anselmo; Bordeaux; Kennedy; Merriman; Whitman.

4. Bouteloua. 123.

Rachilla of the rudimentary flower glabrous. **1. B. hirsuta.**
Rachilla of the rudimentary flower with a tuft of long hair at its apex. **2. B. oligostachya.**

1. Bouteloua hirsuta Lag.
In dry prairies over most of the state. Belmont; Gage County; Halsey; Lincoln; Mullen; Pishelville; Valentine.

2. Bouteloua oligostachya (Nutt.) Torr. **Grama Grass.**
Common on dry prairies throughout the state. Callaway; Central City; Cherry County; Halsey; Hardy; Hat Creek Basin; Mullen; Pishelville; Plummer Ford; Valentine.

5. Atheropogon. 123.

1. Atheropogon curtipendula (Michx.) Fourn.
Common all over the state. Bazile Creek; Bellevue; Belmont; Franklin; Hardy; Lincoln; Plummer Ford; Red Cloud; Louisville.

6. Schedonnardus. 122.

1. Schedonnardus paniculatus (Nutt.) Trelease.
Common in dry places throughout the state. Beatrice; Brunswick; Cushman; Grand Rapids; Halsey; Kearney; Lincoln; Minden; Nebraska City; Thedford; Valentine.

7. Bulbilis. 125.

1. Bulbilis dactyloides (Nutt.) Raf. **Buffalo-grass.**
On dry prairies, mostly in the western part of the state. Alliance; Belmont; Box Butte County; Central City; Franklin; Halsey; Lincoln; Minden; Norway; Plainview; Thedford; Valentine.

Tribe 4. Aveneae.

Awns dorsal, inserted below the teeth.
Spikelets 2-6 flowered, the lower perfect. **1. Avena.**
Spikelets 2 flowered, the lower staminate. **2. Arrhenatherum.**
Awns attached between the teeth at the end of the scale. **3. Danthonia.**

1. Avena. 117.

1. Avena striata Michx. **Purple Oats.**
In woods in the western part of the state. Long Pine; War Bonnet Canon.

2. Arrhenatherum. 118.

1. Arrhenatherum elatius (L.) Beauv. **Oat-grass.**
In fields and waste places. Lincoln; Minden.

3. Danthonia. 118.

1. Danthonia spicata (L.) Beauv. **Wild Oat-grass.**
Nebraska?

Tribe 5. Phalarideae.

1. Phalaris. 92.

Panicle elongated, over 5 cm. long. **1. P. arundinacea.**
Panicle ovoid, less than 5 cm. long. **2. P. canariensis.**

1. Phlaris arundinacea L. **Reed Canary-grass.**
In moist places, most abundant in the eastern part of state. Ashland; Bassett; Lincoln; Plainview; Talmage; Whitman.

2. Phlaris caneriensis L. **Canary-grass.**
Introduced, not common. Alliance; Lincoln; Minden; Valentine.

Tribe 6. Paniceae.

Spikelets without an involucre.
  Spikelets not in one-sided spikes. **1. Panicum.**
  Spikelets in one-sided spikes.
    Empty scales awned or awn-pointed. **2. Echinochloa.**
    Empty scales not awned.
      Spikelets not much longer than wide. **3. Paspalum.**
      Spikelets about twice as long as wide. **4. Syntherisma.**
Spikelets with an involucre, i. e. accompanied by bristles or enclosed in a spiny burr.
  Involucre of bristles. **5. Chaetochloa.**
  Involucre of valves forming a spiny bur. **6. Cenchrus.**

1. Panicum. 78.

Plants annual.
  First empty scale not over ¼ the length of the spikelet, truncate or triangular tipped. **1. P. dichotomiflorum.**
  First empty scale at least ⅓ the length of the spikelet, acute or acuminate.
    Panicle narrow, usually less than half as long as broad. **2. P. flexile.**
    Panicle as broad as long.
      Spikelets usually less than 2.5 mm. long. **3. P. capillare.**
      Spikelets usually over 2.5 mm. long. **4. P. barbipulvinatum.**

Plants perennial.
  Basal leaves similar to those of the culm; not forming a winter rosette; first empty scale ⅔ as long as spikelet. **5. P. virgatum.**
  Basal leaves usually distinctly different from those of the culm, forming a winter rosette; first empty scale not more than ½ the length of the spikelet.
    Blades elongated, not over 5 mm. wide, 20 times as long as wide; autumnal form branching from base only.
      Spikelets usually over 3.2 mm. long, pointed. **6. P. depauperatum.**
      Spikelets usuall less than 3.2 mm. long, blunt.
        Spikelets from 2.7 to 3.2 mm. long. **7. P. perlongum.**
        Spikelets from 2.2 to 2.7 mm. long. **8. P. linearifolium.**
    Blades not elongated, (or if so over 5 mm. wide and autumnal form not branched from the base.)
      Spikelets neither turgid, blunt nor strongly nerved.
        Ligule of conspicuous hairs, usually 3-5 mm. long.
          Culms variously pubescent, if pilose the hairs not long and horizontally spreading.
            Autumnal form erect or leaning, never forming a mat.
              Spikelets 1.5 mm. or less long. **9. P. implicatum.**
              Spikelets 1.6 mm. or more long.

Blades stiff, erect. **10. P. huachucae.**
Blades lax, spreading.
11. P. huachucea vr. silvicola.
Autumnal form branching from the middle nodes, forming widely spreading mate. (See also No. 11.)
12. P. tennesseense.
Culms conspicuously pilose with long horizontally spreading hairs. **13. P. praecocius.**
Ligule obsolete or nearly so. **17. P. latifolium.**
Spikelets turgid, blunt, strongly nerved.
Spikelets not over 3 mm. long. **14. P. wilcoxianum.**
Spikelets over 3 mm. long.
Panicle about as wide as long, spikelets less than 3.5 mm. long, first empty scale ⅓ as long as the spikelet.
15. P. scribnerianum.
Panicle narrow, spikelets over 3.5 mm. long, first empty scale ½ as long as spikelet. **16. P. leibergii.**

(Key abridged from "North American Species of Panicum," by Hitchcock and Chase.)

1. Panicum dichotomiflorum Michx.
Panicum proliferum Lam.
In the southeastern part of the state. Lincoln; Talmage.

2. Panicum flexile (Gattinger) Scrib.
(South Dakota.)

3. Panicum capillare L.
A common weed over most of the state. Ewing; Halsey; Lincoln; Stanton County; Valentine.

4. Panicum barbipulvinatum Nash.
A common weed all over the state. Belmont; Box Butte County; Central City; Dismal River; Grant County; Hooker County; Niobrara; North Platte; Simeon; Whitman.

5. Panicum virgatum L.
Common on the rairies over most of the state. Broken Bow; Crawford; Franklin; Hardy; Lincoln; Mullen; North Platte; Pishelville; Talmage; Thedford; Valentine.

6. Panicum depauperatum Muhl.
Atkinson; Ewing.

7. Panicum perlongum Nash.
Ewing.

8. Panicum linearifolium Scribn.
(Kansas & Minnesota.)

10. Panicum hauchucae Ashe.
Panicum unciphyllum Trin.
Ewing; Loup City; Thomas County; Valentine.

11. Panicum huachucae var. silvicola Hitch. & Chase.
Common over most of the state. Ewing; Grand Island; Kearney; Nattick; Pishelville; Thedford.

12. Panicum tennesseense Ashe.
Minden.

13. Panicum praecocius Hitch. & Chase.
Broken Bow; Grand Island.

14. Panicum wilcoxianum Vasey.
Common in the sand-hills. Callaway; Hastings; Fort Niobrara; Lincoln; Minden; Stanton; Thedford; Valentine; Valley County; Weigand.

15. Panicum scribnerianum Nash.
All over the state. Belmont; Broken Bow; Ewing; Hardy; Lincoln; Mullen; Thedford; Valentine; Weeping Water.

16. Panicum leibergii (Vasey.) Scribn.
Ponca; Stanton.

17. Panicum latifolium L.
(Iowa & Kansas.)

2. Echinochloa. 78.

1. Echinochloa crus-galli (L.) Beauv. **Barnyard Grass.**
A common weed in moist soil. Atkinson; Benkleman; Brunswick; Chelsa; Ewing; Mullen; Royal; Valentine; Whitman.

3. Paspalum. 72.

1. Paspalum stramineum Nash. **Bead Grass.**
Common in dry sandy soil throughout the state. Bellevue; Holt County; Kennedy; Minden; Mullen; Oreopolis; Red Cloud; Thedford; Verdigris.

4. Syntherisma. 76.

Pedicels terete or nearly so, spikelets less than 2.5 mm. long. **1. S. linearis.**
Pedicels three angled, spikelets 2.5 mm. long or more. **2. S. sanguinalis.**

1. Syntherisma linearis (Krock.) Nash.
Digitaria humifusa Pers.
Long Pine.

2. Syntherisma sanguinalis (L.) Dulac. **Crab Grass.**
Digitaria sanguinalis (L.) Scop.
A common weed in the eastern part of the state, less common westward. Custer County; Guide Rock; Hardy; Lincoln; Minden; Valentine.

5. Chaetochloa. (Setaria.) 89.

Bristles 5-16 at the base of each spikelet, tawny-orange. **1. C. glauca.**
Bristles 1-3 at the base of each spikelet.
  Bristles downwardly barbed. **4. C. verticillata.**
  Bristles upwardly barbed.
    Spikelets 2 mm. long, bristles green. **2. C. viridis.**
    Spikelets 2.5 mm. long, bristles purple. **3. C. italica.**

1. Chaetochloa glauca (L.) Scrib. **Yellow Fox-tail.**
Common as a weed all over the state, but most aboundant in the east. Franklin; Lincoln; Talmage.

2. Chetochloa viridis (L.) Cribn. **Green Fox-tail.**
A common weed all over the state. Franklin; Greenwood; Halsey; Hardy; Lincoln; Minden; Mullen; Schuyler; Talmage; Valentine; Weigand.

3. Chaetochloa italica (L.) Scribn. **Millet.**
Cultivated for hay and often escapes. Anselmo; Lincoln.
4. Chaetochloa verticillata (L.) Scribn.
Found in several localities in the eastern part of the state, but not common. Lincoln; Newark; Minden; Omaha; Orleans; Valentine; Weeping Water.

6. Cenchrus. 90.

1. Cenchrus tribuloides L. **Sand-bur Grass.**
A common and troublesome weed. Central City; Chelsea; Halsey; Lincoln; Mullen; Talmage.

Tribe 7. Agrostideae.

Flowering scales hyaline or membranous, awnless or dorsally awned, loosely enveloping the seed.
Empty scales awnless or nearly so.
Inflorescence an open panicle, or if spike-like the flowering scales 1 nerved.
Flowering scales with long hairs at the base.
Empty scales nearly equal; flowering scales dorsally awned. **2. Calamagrostis.**
Empty scales very unequal; flowering scales awnless. **3. Calamagrostis.**
Flowering scales not hairy at the base.
Palet 2 nerved; stamens 3.
Flowering scales shorter than the empty scales, and longer than the palet. **1. Agrostis.**
Flowering scales longer than the empty scales, and not longer than the palet. **5. Sporobolus.**
Palet 1 nerved or the 2 nerves close together, stamen only 1. **4. Cinna.**
Inflorescence spike-like.
Flowering scales awnless; empty scales short awned. **6. Phleum.**
Flowering scales awned; empty scales usually awnless. **7. Alopecurus.**
Empty scales with awns longer than the body of the scale. **8. Polypogon.**
Flowering scales indurated or membranous, closely enveloping the seed, awned or awn-pointed at the tip.
Empty scales very small; rachilla produced beyond the flowers. **9. Brachyelytrum.**
Empty scales larger, generally as long as the flowering scales.
Flowering scales with a deciduous awn; empty scales broad.
Flowering scales glabrous. **10. Oryzopsis.**
Flowering scales densely pubescent with long hairs. **11. Eriocoma.**
Flowering scales with a permanent awn or the empty scales narrow.
Awn simple or wanting.
Awn not twisted, delicate or reduced to a mere point. **12. Muhlenbergia.**
Awn twisted and bent at the base. **13. Stipa.**
Awn three-branched, the lateral branches often small. **14. Aristida.**

1. Agrostis. 109.

Palet conspicuous, at least ⅓ as long as the flowering scale. **1. A. alba.**
Palet minute or wanting.
  Branches of the panicle spikelet-bearing to the base.
    2. A. asperifolia.
  Branches of the panicle naked below.
    Stems weak, often decumbent. **3. A. perennans.**
    Stems erect. **4. A. hyemalis.**

1. Agrostis alba L. **Red-top.**
Cultivated for hay and pasture. Common in low prairies where it often drives out the native grasses. Anselmo; Halsey; Hat Creek Basin; Dukeville; Kearney; Lincoln; Rushville; Talmage; Thedford; Wahoo.

2. Agrostis asperifolia Trin. **Mountain Red-top.**
In western part of the state. Belmont; Dismal River; Hat Creek Basin; Long Pine; Mullen; Plummer Ford; War Bonnet Canon.

3. Agrostis perennans (Walt.) Tuckerm.
Cass County.

4. Agrostis hyemalis (Walt.) B. S. P. **Hair grass.**
In prairies over most of the state. The panicle is blown about as a tumble-weed. Atkinson; Belmont; Dismal River; Elmwood; Halsey; Kearney; St. James; Lincoln; Minden; Thedford.

2. Calamagrostis. 109.

Panicle open, the lower branches wide spreading. **1. C. canadensis.**
Panicle contracted, branches ascending.
  Basal hairs about as long as the scale. **2. C. inexpansa.**
  Basal hairs half as long as scale. **3. C. neglecta.**

1. Calamagrostis canadensis (Michx.) Beauv. **Yellow Top.**
Prairies, not very common. Aten; Kearney; Ord; Platte River; Scotia; Whitman.

2. Calamagrostis inexpansa A. Gray.
Mullen; along Platte River in Kearney County; Thedford.

3. Calamagrostis neglecta (Ehrh.) Gaertn.
In prairies, most common westwards. Atkinson; Anselmo; Ashland; Hat Creek Basin; Scotia; Sheridan County; Sioux County; Valley County.

3. Calamovilfa. 114.

1. Calamovilfa longifolia (Hook.) Hack. **Reed Grass.**
Common in the sand-hill regions. Alliance; Antelope County; Banner County; Belmont; Culbertson; Dismal River; Franklin; Halsey; Mullen; Sioux County; Thomas County; Valentine; Verdigris Creek.

4. Cinna. 108.

1. Cinna arundinaceae L. **Wood Reed-grass.**
In woods mostly in the eastern half of the state. Bellevue; Cherry County; Hitchcock; Long Pine; Lincoln; Riverton; Talmage; Wahoo; Weeping Water.

5. Sporobolus. 104.

Panicle contracted, spike-like.
  Spikelets 4-5 mm. long.

Panicle over 6 cm. long. **1. S. longifolius.**
Panicle less than 6 cm. long. **2. S. vaginaeflorus.**
Spikelets not over 3 mm. long, panicle partly enclosed in the sheath. **3. S. neglectus.**

Panicle open, not spike-like.
Spikelets over 4 mm. long, first scale subulate, often, awn-pointed. **4. S. heterolepis.**

Spikelets 2 mm. long or less.
Empty scales unequal, the first half as long as the second or less
First scale half as long as the second, not scabrous keeled. **5. S. airoides.**
First scale ⅓ as long as the second, scabrous keeled. **6. S. cryptandrus.**
Empty scales about equal.
Rootstock present, leaves 2 mm. wide or more. **7. S. asperifolius.**
Rootstock wanting, leaves less than 2 mm. wide. **8. S. confusus.**

1. Sporobolus longifolius (Torr.) Wood.
Throughout the state. Kennedy; Lincoln; Valentine.
2. Sorobolus vaginaeflorus (Torr.) Wood.
Common in waste places except in the extreme west. Atkinson; Bellevue; Carns; Hardy; Lancaster; Lincoln; Long Pine; Minden.
3. Sporobolus neglectus Nash.
Over most of the state. Callaway; Long Pine; Valentine..
4. Sporobolus heterolepis A. Gray.
In the eastern part of the state, not common. Anselmo; Atkinson; Ewing; Lincoln.
5. Sporobolus airoides Torr.
In prairies in the western part of the state. Alliance; Box Butte County; North Platte; Sheridan County.
6. Sporobolus cryptandrus (Torr.) A. Gray.
Common in sandy soil all over the state. Anselmo; Box Butte County; Brunswick; Cherry County; Culbertson; Republican; Scotts Bluff County; Thedford; Valley County; Verdigris Creek.
7. Sporobolus asperifolius Nees. & Meyen.
In the western part of the state. Box Butte County; Hitchcock County; Kearney; Simeon; Rushville.
8. Sporobolus confusus Vasey.
Scotts Bluff County.

6. Phleum. 102.

1. Phleum pratensis L. **Timothy.**
Cultivated for hay and often escapes. Long Pine; Lincoln; Sioux County; Thedford; Valentine.

7. Alopecurus. 102.

1. Alopecurus aristulatus Michx. **Water Fox-tail.**
Alopecurus geniculatus L.
Common in wet places throughout the state. Box Butte County; Deuel County; Halsey; Lincoln; Long Pine; Minden; Rushville; Scotts Bluff County; Thedford.

8. Polypogon. 107.

1. Polypogon monspelienesis (L.) Deaf. **Beard Grass.**
Newark.

9. Brachyelytrum. 101.

1. Brachyelytrum erectum (Schreb.) Beauv.
Cass County.

10. Oryzopsis. 97.

1. Oryzopsis micrantha (Trin. & Rupr.) Thurb. **Mountain Rice.**
In the western part of the state. Belmont; Dismal River; Long Pine; Plummer Ford; Valentine.

11. Eriocoma. 98.

1. Eriocoma cuspidata Nutt.
On dry plains and hillsides in the western part of the state. Belmont; Box Butte County; Chadron; Cheyenne County; Crawford; Mullen; Sioux County.

12. Muhlenbergia. 99.

Panicle narrow, spike-like, branches short not spreading.
Flowering scales awnless or awn-pointed.
Empty scales longer than the flowering scales. **1. M. racemosa.**
Empty scales not longer than the flowering scales.
Empty scales about as long as the flowering scales.
Stems much branched; rhizomes present. **2. M. mexicana.**
Stems little branched; without rhizomes. **3. M. cuspidata.**
Empty scales about half as long as the flowering scales.
Perennials with scaly rootstocks. **4. M. richardsonis.**
Annuals without rootstocks. **5. M. simplex.**
Flowering scales with awns as long as the scales or longer.
Empty scales about as long as the flowering scales. **6. M. sylvatica.**
Empty scales much shorter than the flowering scales.
Empty scales about half as long ts the flowering scales. **7. M. tenuifolia.**
Empty scales about one-fourth as long as the flowering scales. **8. M. diffusa.**
Panicle open, its branches long and spreading. **9. M. pungens.**

1. Muhlenbergia racemosa (Michx.) B. S. P.
Muhlenbergia glomerata Trin.
Common in wet soil over most of the state. Belmont; Halsey; Kearney; Lincoln; O'Neill; Thedford; Valentine.
2. Muhlenbergia mexicana (L.) Trin.
Common in meadows and along streams throughout the state. Dismal River; Halsey; Kennedy; Nattick; Neligh; Red Cloud; Thedford. Valentine; Wahoo; Weeping Water.
3. Muhlenbergia cuspidata (Torr.) Rydb.
Sporobolus cuspidatus Woods.
In dry soil over most of the state. Belmont; Cass County; Cherry County; Cheyenne County.
4.Muhlenbergia richardsonis (Trin.) Rydb.
Sporobolus brevifolius Nash.
In the western part of the state. Cody; Kennedy; Lincoln; Minden.
5. Muhlenbergia simplex (Scribn.) Ryrb.
Sporobolus simplex Scribn.
In the western part of the state, according to Rydberg's Flora of

Colorado.

6. Muhlenbergia sylvatica Torr.

In woods along streams. Ewing; Orleans; Valentine.

7. Muhlenbergia tenuifolia (Willd.) B. S. P.

Grand Island; Red Cloud.

8. Muhlenbergia diffusa Willd.

In dry soil in the southeastern part of the state. Lincoln; Red Cloud; Valley County.

9. Muhlenbergia pungens Thurb. **Blow-out grass.**

In the sand-hills, frequently in "blow-outs." Belmont; Dismal River; Haigler; Hat Creek Basin; Minden; Mullen; Valentine.

13. Stipa. 96.

Empty scales less than 1 cm. long. **1. S. viridula.**
Empty scales over 1 cm. long.
  Flowering scales, without awn, 8 to 12 mm. long. **2. S. comata.**
  Flowering scales, without awns, 20 to 25 mm. long. **3. S. spartea.**

1. Stipa viridula Trin.

In the western part of the state. Belmont; Burwell; Central City; Deuel County; Mullen; Valentine; Weigand.

2. Stipa comata Trin. & Rupr. **Western spear-grass.**

Common in the western part of the state and in the sand-hills. Axtell; Belmont; Box Butte County; Broken Bow; Brunswick; Harrison; Halsey; Kearney County; Thedford; Valentine.

3. Stipa spartea Trin. **Spear-grass.**

Common in prairies in the eastern part of the state. Crete; Cherry County; Lincoln; Thedford; Weeping Water.

14. Aristida. 93.

Central awn 3.5 cm. long or more.
  Awns distinct to the base, not articulated to the scale.
    First scale much shorter than the second.
      Second scale 1.5 cm. long, but little longer than the flowering scale. **4. A. fendleriana.**
      Second scale 2 cm. long, much longer than the flowering scale. **5. A. longiseta.**
    First scale as long as the second or nearly so. **6. A. oligantha.**
  Awns united at the base and articulated to the scale. **8. A. tuberculosa.**

Central awn not over 3 cm. long.
  Lateral awns much shorter than the central one.
    Spikelets 10-15 mm. long. **2. A. basiramea.**
    Spikelets about 6 mm. long.
      Central awn 1 cm. or more long, the lateral 2-6 mm. long. **7. A. gracilis.**
      Central awn 3-6 mm. long, the lateral erect teeth. **1. A. dichotoma.**
  Lateral awns nearly as long as the central one.
    First scale shorter than the second and third. **3. A. fasciculata.**
    First scale longer than the second and third. **9. A. purpurascens.**

1. Aristida dichotoma Michx.
Nebraska, according to Britton's Manual.
2. Aristida basiramea Engelm.
Common in the sand-hill region. Atkinson; Broken Bow; Exeter; Long Pine; Thedford; Valentine.
3. Aristida fasciculata Torr.
In dry soil mostly in the western part of the state. Lavaca; Lincoln; Long Pine; Thedford.
4. Aristida fendleriana Steud.
Crawford; Lavaca; Valentine.
5. Aristida longiseta Steud.
Callaway; Long Pine; Wood Lake.
6. Aristida oligantha Michx.
Common over most of the state. Ainsworth; Endicott; Ewing; Franklin; Grand Rapids; Lincoln; Long Pine; Minden.
7. Aristida gracilis Ell.
In dry soil in the western part of the state. Atkinson; Arabia; Bassett; Valentine.
8. Aristida tuberculosa Nutt.
Minden.

Tribe 8. Oryzeae.

Spikelets alike; flowers all perfect; scales awnless. **1. Homalocenchrus.**
Spikelets not alike; flowers monoecious; scales of the pistillate spikelets long awned. **2. Zizania.**

1. Homalocenchrus. (Leersia.) 91.

Spikelets 4-5 mm. long, 1.5 mm. wide. **1. H. oryzoides.**
Spikelets 2.5-3 mm. long, 1 mm. wide. **2. H. virginicus.**

1. Homalocenchrus oryzoides (L.) Poll. **Rice cut-grass.**
In marshy places and along streams throughout the state. Bellevue; Coon Creek; Grand Island; Halsey; Lincoln; Lodge Pole Creek; North Platte; Royal; Talmage; Valentine.
2. Homalocenchrus virginicus (Willd.) Britton.
In similar places as the last, not reaching the western part of the state. Bellevue; Cass County; Culbertson; Lincoln; Meadville; Weeping Water; Whitman.

1. Zizania. 91.

1. Zizania aquatica L. **Wild rice.**
In marshes and along streams over most of the state. Atkinson; Bone Creek; Furnas County; Lincoln; Newark; Simeon; Stanton; Valentine; Whitman.

Tribe 9. Andropogoniae.

Inflorescence composed of many-flowered spike-like racemes. **1. Andropogon.**
Inflorescence composed of few-flowered racemes, arranged in open panicles. **2. Sorghastrum.**

1. Andropogon. 68.

Racemes solitary. **1. A. scorparius.**
Racemes 2 or more together.

Fourth scale with a long bent awn, twisted at the base.
Empty scales hispidulous all over, hairs on rachis internodes 2 mm. long. **2. A. furcatus.**
Empty scales smooth except on the nerves, hairs on rachis internodes 3-4 mm. long. **3. A. chrysocomus.**
Fourth scale awnless or with a short, straight, untwisted awn.
Pedicles and rachis internodes with copius, stiff, marginal hairs. **4. A. hallii.**
Pedicles and rachis internodes with scant, lax, marginal hairs. **5. A. paucipilus.**

1. Andropogon scoparius Michx. **Little blue-stem.**
Common on the prairies all over the state. Anselmo; Deuel County; Dismal River; Grand Rapids; Halsey; Lincoln; North Platte; Republican; Valentine.

2. Andropogon furcatus Muhl. **Big blue-stem.**
Common in prairies throughout the state. Beaver Creek in Holt County; Franklin; Gage County; Halsey; Lincoln; Mullen; Thedford; Wahoo; Whitman; Valentine.

3. Adropogon chrysocomus Nash.
Halsey.

4. Adropogon Hallii Hack. **Big blue-stem.**
Common on high prairies in the central and western parts of the state. Antelope County; Banner County; Box Butte County; Chelsea; Garden County; Haigler; Lawrence Fork; Long Pine; Plummer Ford; Thedford; Valentine.

5. Andropogon paucipilus Nash.
Nebraska, according to Britton's Manual.

2. Sorghastrum. 71.

1. Sorghastrum avenaceum (Michx.) Nash.
Sorghastrum nutans (L.) Nash.
Common on the prairies. Ayr; Carns; Dismal River; Deuel County; Hardy; Halsey; Lincoln; North Platte; Thedford; Valentine.

Tribe 10. Maydeae.

1. Tripsacum. 67.

1. Tripsacum dactyloides L.
In low wet places in the southeastern part of the state. Nemaha; Richardson County; Weeping Water.

HYDRALES.

HYDROCHARITACEAE.

Philotria. (Elodia.) 60.

1. Philotria canadensis (Michx.) Britton.
In ponds and streams, rare. Ewing; Neligh.

IRIDALES.

Stamens 6. **1. Amaryllidaceae.**
Stamens 3. **2. Iridaceae.**

1. AMARYLLIDACEAE.

Hypoxis. 280.

1. Hypoxis hirsuta (L.) Coville. **Star grass.**
In low prairies in the eastern part of the state. Ashland; Inman; Newark; Lincoln; Otoe County; Plainview.

2. IRIDACEAE.

Style-branches petal-like, opposite the stamens. **1. Iris.**
Style-branches not petal-like, alternate with the stamens.
Petals mottled, flowers 3–5 cm. broad. **2. Gemmingia.**
Petals not mottled, flowers less than 3 cm. broad. **3. Sisyrinchium.**

1. Iris. 282.

1. Iris versicolor L. **Blue flag.**
In low wet places in the eastern part of the state, not common. Ashland; Nebraska City.

2. Gemmingia. 284.

1. Gemmingia chinensis (L.) Kuntze. **Blackberry lily.**
Belamcanda chinensis (L.) DC.
Escaped from cultivation and spreading along roadside near Brunswick.

3. Sisyrinchium. 284.

1. Sisyrinchium angustifolium Miller. **Blue-eyed grass.**
Common in prairies all over the state. Banner County; Central City; Lincoln; Pine Ridge; Sheridan County; Thedford; Weeping Water.

ORCHIDALES.

ORCHIDACEAE.

Holophytes with normal green leaves.
Fertile stamens 2, on the sides of the column, a large staminodium central over the column. **1. Cypripedium.**
Fertile stamen one, central over the column, staminodia, if present, lateral.
Flowers with a spur at least 2 mm. long.
Leaves all basal. **2. Orchis.**
Leaves not all basal. **3. Habenaria.**
Flowers not spurred.
Petals joined to the upper sepal. **4. Ibidium.**
Petals free from the sepals. **5. Leptorchys.**
Saprophytes without green leaves, stems yellowish or brownish. **6. Corallorrhiza.**

1. Cypripedium. 290.

Lip yellow. **1. C. pubescens.**
Lip white. **2. C. candidum.**

1. Cypripedium pubescens Willd. **Yellow lady's slipper.**
Cypripedium hirsutum.
In southeastern Nebraska long the Missouri River. Peru; Plattsmouth; Richardson County.

2. Cypripedium candidum Willd. **White lady's slipper.**
In lowlands in the eastern part of the state. Antelope County; Central City; Knox County; Lincoln; Newark; Richardson County; Scotia Junction.

2. Orchis. 292.

1. Orchis spectablis L.
Galeorchis spectablis (L.) Rydb.
Wooded bluffs of the Missouri. Bellevue; Peru; Plattsmouth; Omaha.

3. Habenaria. 292–295.

Lip not fringed.
  Lip three toothed. **1. H. bracteata.**
  Lip entire.
    Flowers white. **2. H. hyperborea.**
    Flowers green. **3. H. dilatata.**
Lip fringed. **4. H. luecophaea.**

1. Habenaria bracteata (Willd.) R. Br.
Along shady banks in various parts of the state. Gordon; Lincoln; Peru; Sioux County.

2. Habenaria hyperborea (L.) R. Br.
In the western part of the state. Boelus; Chadron; Valentine.

3. Habenaria dilatata (Pursh.) Gray.
Nebraska according to Britton's Manual.

4. Habenaria luecophaea (Nutt.) Gray.
In wet meadows over most of the state, common in wet valleys of the sand-hill region. Belmont; Cherry County; Crete; Fairbury; Kennedy; Lincoln; Plainview.

4. Ibidium. 299.

Flowers apparently in a single rank, secund. **1. I. gracilis.**
Flowers 3-ranked.
  Sepals and petals forming a hood, callosities of lip small or wanting. **2. I. strictum.**
  Sepals separate, callosities nipple shaped. **3. I. cernuum.**

1. Ibidium gracilis (Bigel.) Beck.
Spiranthes gracilis (Bigel.) Beck.
Franklin.

2. Ibidium strictum (Rybd.) House.
Spiranthes romanzoffiana Cham.
Grand Island; Long Pine; Simeon.

3. Ibidium cernuum (L.) House.
Spiranthes cernua (L.) Rich.
Common in wet meadows throughout the state. Ashland; Brown County; Cody; Long Pine Canon; Newark; Pine Ridge; Plainview; Sioux County; Thomas County.

5. Leptorchys. 303.

1. Leptorchys loeselii (L.) MacM.
Liparis loeselii (L.) Richard.
Thedford.

6. Corallorhiza. 305.

Lip entire; whole plant yellow. — 1. C. ochroleuca.
Lip with 2 lobes or teeth; plant brownish.
Lip unspotted; lobes small; spur very small. — 2. C. corallorrhiza.
Lip spotted; lobes prominent; spur manifest. — 3. C. multiflora.

1. **Corallorrhiza ochroleuca** Rydb.
Woods of western Nebraska.
2. **Corallorhiza corallorrhiza** (L.) Karst.
Shady woods in canons of Sioux County.
3. **Corallorhiza multiflora** Nutt.
Shady woods in the canons of Sioux County.

Class DICOTYLEDONEAE.

The dicots.

Sub-Class THALAMIFLORAE.

RANALES.

Land or marsh plants.
Carpels several to many.
Herbs not climbing. — 1. Ranunculaceae.
Vines.
Leaves compound, flowers mostly perfect. — 1. Racunculaceae.
Leaves simple, flowers dioecious. — 3. Menispermaceae.
Shrubs or small trees. — 6. Anonaceae.
Carpel single; 2–many ovuled. — 2. Berberidaceae.
Aquatic herbs.
Leaves floating, peltate or with a deep sinus at the base. — 4. Nymphaeaceae.
Leaves mostly submerged and dissected.
Flowers peduncled, opposite the leaves. — 1. Ranunclaceae.
Flowers sessile, axillary. — 5. Ceratophyllaceae.

1. RANUNCULACEAE.

Carpels one ovuled; fruit an achene.
Petals usually present.
Sepals spurred; leaves basal, linear; receptable in fruit elongated, cylindrical. — 1. Myosurus.
Sepals not spurred; receptacle in fruit spherical, conical or short cylindrical.
Petals white, aquatic herbs. — 3. Bartrachium.
Petals yellow; land or marsh plants.
Achenes not ribbed. — 2. Ranunculus.
Achenes longitudinally ribbed. — 4. Halerpestes.
Petals wanting; sepals often petaloid.
Leaves mostly alternate or basal.
Leaves all alternate, ternately compound. — 5. Thalictrum.
Leaves or bracts subtending the inflorescence opposite or whorled.

Styles short, not plumose in fruit.
Basal leaves not twice or thrice ternately compound. **8. Anemone.**
Basal leaves twice or thrice ternately compound. **6. Syndesmon.**
Styles elongated in fruit, plumose. **7. Pulsatilla.**
Leaves all opposite. **9. Clematis.**
Carpels with several ovules; fruit a follicle or berry.
Petals inconspicuous or none; never spurred.
Leaves simple; flowers solitary; fruit a follicle. **10. Caltha.**
Leaves ternately compound; flowers racemose; fruit a berry. **13. Actaea.**
Petals present; some or all spurred.
Flowers regular; all the petals spurred. **11. Aquilegia.**
Flowers irregular; one sepal spurred. **12. Delphinium.**

1. Myosurus. 423.

1. Myosurus minimus, L. **Mouse-tail.**
Locally abundant in wet soil in various places in the state. Alliance; Fairmont; Lewellen; Lincoln; Merriman; Minden; Weeping Water.

2. Ranunculus. 423.

Aquatic plants with dissected leaves or sometimes rooting in mud.
Petals much larger than the sepals. **1. R. delphinifolius.**
Petals not much larger than the sepals. **2. R. purshii.**
Terrestrial plants; leaves entire, lobed or divided; segments not capillary.
Basal leaves all lobed or divided.
Plant glabrous, stem hollow. **3. R. sceleratus.**
Plants more or less pubescent.
Beak or achene strongly hooked. **4. R. recurvatus.**
Beak or achene not hooked.
Beak short, less than half as long as the achene.
Flowers about 2 cm. broad.
Leaves 3 lobed, broader than long, the terminal lobe sessile. **5. R. acris.**
Leaves 3 lobed, longer than broad, the terminal lobe stalked. **6. R. bulbosus.**
Flowers less than 1 cm. broad. **7. R. pennsylvanicus.**
Beak at least half as long as the achene.
Beak sword shaped, nearly as long as the achene. **8. R. septentrionalis.**
Beak slender, subulate, about half as long as the achene.
Basal leaves not all lobed or divided. **9. R. hispidus.**
Plant pubescent, basal leaves not cordate. **10. R. ovalis.**
Plant glabrous, basal leaves cordate. **11. R. abortivus.**

1. Ranunculus delphinifolius Torr.
In shallow water over most of the state. Antelope County; Aten; Fremont; Gordon; Minden; Saltillo.
2. Ranunculus Purshii Richards.
In water near Whitman.
3. Ranunculus sceleratus L.

In edges of ponds, not common. Aten; Belmont; Mullen; Sidney; Whitman; Lewellen; Newark.

4. Ranunculus recurvatus Poir.

By springs and streams in the southeastern part of the state. Nebraska City; Weeping Water.

5. Ranunculus acris L.

In the southeastern part of the state. Lincoln; Peru.

6. Ranunculus bulbosus L.

Macon.

7. Ranunculus pennsylvanicus L.

In wet places over most of the state. Atkinson; Belmont; Cody's Lakes Dawes County; Mullen; Minden; Scotia.

8. Ranunculus septentrionalis Poir.

In wet soil in the eastern part of the state. Emerson; Newark; Stella.

9. Ranunculus hispidus Michx.

Kimball.

10. Ranunculus ovalis Raf.

Ranunculus rhomboideus Goldie.

In the sand-hills regions. Antelope; Burwell; Callaway; Gordon; Long Pine.

11. Ranunculus abortivus L.

Woods and thickets, mostly along streams, in the southeastern part of the state. Beatrice; Crete; Ewing; Ft. Niobrara; Long Pine; Lincoln; Pauline.

3. Bartrachium.

Leaves sessile, circinate. — **1. B. divaricatum.**

Leaves petioled, not circinate.

Beak of achene 1 mm. long. — **2. B. longirostris.**

Beak minute or none. — **3. B. trichophyllum.**

1. Bartrachium divaricatum (Shrank.) Winn.

Ranunculus circinatus Sibth.

Rare. Lodge Pole Creek.

2. Bartrachium longirostris (Godr.) F. Shurtz.

Nebraska?

3. Bartrachium trichophyllum (Choix.) Borsch.

Ranunculus aquatilis var. capillaceus DC.

Common in streams throughout the state. Anselmo; Cherry County; Keya Paha; Lincoln; Long Pine; Newark; Plainview.

4. Halerpestes. 430.

1. Halerpestes cympalaria (Pursh.) Greene.

Ranunculus cymbalaria Pursh.

Common, often forming patches of considerable size in wet meadows and marshes. Alliance; Aten; Bellevue; Broken Bow; Crawford; Deuel County; Kearney County; Newark; Plainview; Whitman.

5. Thalictrum. 430.

1. Thalictrum purpurascens L.

Thalictrum dasycarpum Fisch. & Lall.

In low meadows and open woods along streams throughout the state.

Belmont; Dismal River; Lincoln; Red Cloud; Scotia; St. James; Valentine.

6. Syndesmon. 420.

1. Syndesmon thalictroides (L.) Hoffing.
Anemonella thalictroides (L.) Spach.
In woods in the eastern part of the state, rare. Riverton; Woodlawn.

7. Pulsatilla. 420.

1. Pulsatilla hirsutissima (Pursh.) Britton.
Anemone pratens L. var. **wolfgangiana** (Bess.) Koch.
In dry prairies mostly in northern and western part of the state. Antelope County; Kearney; Ft. Robinson; Valentine; West Point.

8. Anemone. 418.

Root tuberous; stem simple; one flowered.
  Achenes densely wooly, leaves ternately divided. **1. A. caroliniana.**
  Achenes pubescent, basal leaves 5-parted. **6. A. quinquifolia.**
Root not tuberous, stem branched, 2 to several flowered.
  Involucral leaves with petioles 2 cm. or more long.
    Beak of fruit 1 mm. long, heads of fruit cylindrical, 2–4 cm. long. **3. A. cylindrica.**
    Beak of fruit 2 mm. long, heads of fruits oblong, 1-2.5 cm. long. **4. A. virginiana.**
  Involucral leaves sessile or short petioled.
    Flowers less than 2 cm. broad. **2. A. hudsoniana.**
    Flowers over 2 cm. broad. **5. A. canadensis.**

1. Anemone caroliniana Walt.
(Including **A. decapetala** Ard.)
Common on dry prairies. Atkinson; Crete; Fairbury; Holdrege; Lincoln; Minden; Red Cloud; Royal; Valentine.
2. Anemone hudsoniana Richards.
Anemone multifida Poir.
In the western part of the state. Belmont.
3. Anemone cylindrica A. Gray.
Common in dry prairies throughout the state. Belmont; Broken Bow; Cass County; Cherry County; Denton; Kearney County; Thedford; Wahoo; Valentine.
4. Anemone virginiana L.
In woods in the southeastern part of the state. Weeping Water.
5. Anemone canadensis L.
Common in low ground in the eastern part of the state. Emerson; Grand Island; Lincoln; Lowell; Neligh; Peru; Red Cloud; Stewart; Wahoo.
6. Anemone quinquifolia L.
In the eastern part of the state. Greenwood.

9. Clematis. 420.

Leaves, at least some of them, pinnate.
  Climbing vines.
    Flowers cymose-paniculate, small.

Leaves 5 to 7-foliate, glabrate. **1. C. ligusticifolia.**
Leaves mostly 3-foliate, silky beneath. **2. C. missouriensis.**
Flowers solitary, large. **3. C. simsii.**
Erect herbs, lower leaves sometimes entire. **5. C. scottii.**
Leaves all simple. **4. C. fremontii.**

1. Clematis ligusticifolia Nutt.
Common in woods and thickets in the western part of the state. Banner County; Belmont; Deuel County; Ft. Robinson; Kimball County; Saunders County; Thomas County; Valentine.

2. Clematis missouriensis Rydb.
Included in **C. virginiana** in Gray's Manual.
In woods in the eastern part of the state. Crete; Long Pine; Lincoln; Neligh; Peru; Pishelville; Richardson County.

3. Clematis simsii Sweet.
Clematis pitcherii Torr. & Gray.
On wooded bluffs in the eastern part of the state. Otoe County.

4. Clematis fremontii S. Wats.
Red Cloud.

5. Clematis scottii Porter.
Sheridan County.

10. Caltha. 412.

1. Caltha palustris L.
Along streams and ditches. Norfolk; Pierce; Kennedy.

11. Aquilegia. 415.

1. Aquilegia canadensis L.
In woods in the eastern part of the state, especially along the Missouri. Belmont; Fremont; Lincoln; Nebraska City; Plattsmouth; Ponca.

12. Delphinium. 416.

Spur over one cm. long.
Follicles erect.
Flowers white sometimes tinged with blue. **1. D. albescens.**
Flowers blue. **2. D. nelsoni.**
Follicles in fruit widely spreading. **4. D. tricorne.**
Spur less than one cm. long. **3. D. urceolatum.**

1. Delphinium albescens Rydb. **Wild lark-spur.**
Common in prairies throughout the state. Banner County; Cherry County; Fairbury; Lincoln; Lodge Pole; Norway; Ponca; Sheridan County.

2. Delphinium nelsoni Greene.
Occurs in western Nebraska. Ft. Robinson; Glen.

3. Delphinium urceolatum Jacq.
Delphinium exaltatum Ait.
In woods in the eastern part of the state. Bennett; Lincoln; Nebraska City; Talmage; Tecumseh; Saltillo; Weeping Water.

4. Delphinium tricorne Michx.
In woods and meadows in the eastern part of the state. Elmwood; Nebraska City; Weeping Water.

13. Actaea. 414.

Berry spherical, 5–7 mm. long. 1. A. arguta.
Berry ellipsoid, 10–12 mm. long. 2. A. rubra.

1. **Actaea arguta** Nutt.
In the northwestern part of the state. Squaw Canon.

2. **Actaea rubra** (Ait.) Willd.
In the northwestern part of the state. Belmont; Hat Creek Basin; War Bonnet Canon.

2. BERBERIDACEAE.

Shrubs. 1. Berberis.
Herbs.
Flowers paniculate, greenish purple. 2. Caulophyllum.
Flowers solitary, white. 3. Podophyllum.

1. Berberis. 432.

1. **Berberis aquifolium** Pursh. Oregon grapes.
A xerophyte of the northwestern part of the state. Belmont; Harrison; Pine Ridge; Squaw Butte.

2. Caulophyllum. 433.

1. **Caulophyllum thalictroides** (L.) Michx.
Rare in wooded ravines along the Missouri. Bellevue; Newcastle.

3. Podophyllum. 433.

1. **Podophyllum peltatum** L.
In woods, mostly along the Missouri River. Brownville; Nebraska City; Nemaha; Richardson County.

3. MENISPERMACEAE.

Menispermum. 434.

1. **Menispermum canadense** L.
Common in open woods and thickets in the eastern part of the state. Crete; Ewing; Fairbury; Fremont Island; Grand Island; Lincoln; Peru; Ponca; Red Cloud; Washington.

4. NYMPHAEACEAE.

Leaves not peltate.
Flowers yellow, petals shorter than the stamens. 1. Nymphaea.
Flowers white, petals longer than the stamens. 2. Castalia.
Leaves peltate, carpels contained in pits in the enlarged receptacle. 3. Nelumbo.

1. Nymphaea. 406.

1. **Nymphaea advena** Soland.
Formerly found in ponds throughout the state, but has now been destroyed by cattle in most places. Cherry County; Grant County; Kennedy; South of Whitman.

2. Castalia. 407.

1. **Castalia tuberosa** (Paine.) Greene.
In ponds in the eastern part of the state, but rapidly disappearing due to trampling by cattle. Nemaha County; Richardson County.

3. Nelumbo. 408.

1. Nelumbo lutea Pers.
In ponds along the Missouri and Platte Rivers. Sharing the same fate as the last. Near Ames; Fremont; Nemaha.

5. CERATOPHYLLACEAE.

Ceratophyllum. 408.

1. Ceratophyllum demersum L.
Common in streams, ponds and lakes. Callaway; Grant County; Newark.

6. ANONACEAE.

Asimina. 410.

1. Asimina triloba (L.) Dunal. **American pawpaw.**
Along the Missouri in the southeastern part of the state. Nebraska City; Nemaha; Peru; Richardson County; Talmage.

RHOEODALES. (PAPAVERALES.)

Flowers quite irregular.
  Some of the petals spurred. **1. Papaveraceae.**
  None of the petals spurred. **2. Resedaceae.**
Flowers regular or nearly so.
  Juice milky, yellow or red, sepals falling when the flower opens. **1. Papaveraceae.**
  Juice not colored, sepals persistent.
    Capsule 2-celled, stamens not more than 6. **3. Cruciferae.**
    Capsule 1-celled, stamens 6-many. **2. Capparidaceae.**

1. PAPAVERACEAE.

None of the petals spurred.
  Sap yellow, leaves spiky, not all basal. **1. Argemone.**
  Sap red, leaves all basal, not spiny. **2. Sanguinaria.**
Some of the petals spurred.
  Both of the outer petals spurred. **3. Bicuculla.**
  One of the outer petals spurred. **4. Capnoides.**

1. Argemone. 439.

1. Argemone intermedia Sweet.
Common in the western part of the state. Alliance; Box Butte County; Deuel County; Long Pine; Niobrara; Oxford; Sheridan County; Thedford; Valentine.

2. Sanguinaria. 439.

1. Sanguinaria canadensis L.
Rare in woods along the Missouri River. Bellevue; Ponca.

3. Bicuculla. (Dicentra.) 440.

1. Bicuculla cucullaria (L.) Millsp.
In woods in the eastern part of the state, mostly along the Missouri. Lincoln; Peru; South Bend; Talmage; Tecumseh; Wahoo; Weeping Water.
2. Bicuculla canadensis (Goldie) Millsp.
Nebraska?

4. Capnoides. (Corydalis.) 441.

Spur not more than half the length of the body of the corolla. **1. C. micranthium.**
Spur as long as the body of the corolla or nearly so. **2. C. montanum.**

1. Capnoides micranthium.
Lincoln.
2. Capnoides montanum (Engelm.) Britton.
Common in low prairies. Banner County; Ft. Robinson; Kimball County; Peru; Neligh.

2. CAPPARIDACEAE.

Petals entire or merely notched at the tip.
  Stamens not more than six.
    Seeds numerous. **1. Cleome.**
    Seeds few, 4–10 in each pod. **3. Cleomella.**
  Stamens 8-many, unequal. **4. Polanisia.**
Petals laciniate, unequal. **2. Cristatella.**

1. Cleome. 467.

Flowers pink or white, leaves trifoliate. **1. C. serrulata.**
Flowers yellow, leaves mostly 5-foliate. **2. C. lutea.**

1. Cleome serrulata Pursh.
Common in most parts of the state, often a weed in pastures in the sand-hills. Belmont; Carns; Callaway; Lincoln; Long Pine; Mullen; Newark; Rock County; Thedford; Weeping Water.
2. Cleome lutea Hook.
Introduced from the west; rare. Lincoln; Weeping Water.

2. Cristatella. 468.

1. Cristatella jamesii T. & G.
Common in the sandhills. Benkleman; Kennedy; Long Pine; Minden; Nattick; Thedford; Turner; Red Cloud; Valentine.

3. Cleomella. 468.

1. Cleomella augustifolia Torr.
Common in the western part of the state. Camp Clark; Culbertson; Julesburg; Lodge Pole Creek; North Platte.

Polanisia. 468.

Flowers 4–6 mm. long, style 2 mm. long. **1. P. graveolens.**
Flowers 8–12 mm. long, style 4-6 mm. long. **2. P. trachysperma.**

1. Polanisia graveolens Raf. **Clammy-weed.**
In dry sandy or gravelly places in the western part of the state. Atkinson; Belmont; Long Pine; Pine Ridge; Red Cloud; Valentine.
2. Polanisia trachysperma T. & G.
Common in sand draws and other dry, sandy places. Anselmo; Benkleman; Belmont; Dawes County; Deuel County; Niobrara; Pine Ridge; Royal; Red Cloud; Thedford.

3. CRUCIFERAE. (BRASSIACEAE.)

Pods stipitate, anthers spirally twisted.
Stipes several cm. long, flowers yellow. 1. Stanleya.
Stipes 1 mm. long, flowers pink. 2. Thelypolium.
Pods sessile, anthers not twisted.
A. Pods compressed or flattened contrary to the narrow partition.
Cells of pod 1-seeded. Pods usually winged, notched at the apex. 3. Lepidium.
Cells of pods with 2 to many seeds.
Seeds 2 in each cell.
Pods winged, hairs simple or none. 4. Thlaspi.
Pods wingless, cuneate, hairs branched. 14. Bursa.
Seeds several in each cell, plant stellate. 12. Physaria.
B. Pods neither compressed nor flattened contrary to the partition.
a. Pods terete or tetragonal, not flattened.
Pods short, rarely more than twice as long as wide.
Petals entire.
Pubescence stellate, seeds flat. 13. Lesquerella.
Pubescence not stellate.
Leaves entire or toothed, the upper sessile, clasping by a sagittate base. 15. Camelina.
Leaves lobed or pennatifid, not sagittate. 9. Roripa.
Petals deeply 2-cleft. 22. Berteroa.
Pods long, several times as long as wide.
Pod scarcely beaked, merely tipped by a short style or a sessile stigma.
Pods terete or nearly so.
Seeds in 2 rows in each cell of the pod.
Valves of the pod nerveless. 9. Roripa.
Valves of the pods 1-nerved. 17. Sophia.
Seeds in one row in each cell of the pod.
Pubescence of simple hairs, leaves runcinate or entire. 5. Sisymbrium.
Pubescence of forked hairs, leaves pinnately dissected. Sophia.
Pods 4-angled.
Stem leaves clasping by a cordate base. 21. Conringia.
Stem leaves not clasping.
Seeds plump, leaf-blades entire or toothed. 19. Erysimum.
Seeds flat, leaf-blades pinnatifid. 8. Barbarea.
Pods with a long distinct beak.
Beak flat, sword-like. 6. Sinapis.
Beak conic or 4-angled. 7. Brassica.
b. Pods flattened parallel to the broad partition.
Pods orbicular, with flattened, wing-like margins. 20. Allyssum.
Pods rarely orbicular, not wing margined.
Valves nerveless.
Seeds in two rows, pods usually short. 16. Draba.
Seeds in one row, pods long.

Stem leafy at least below. **10. Cardamine.**
Steam leafless below, 2–4 leaved above. **11. Dentaria.**
Valves nerved and reticulated.
Pods short, orbicular to linear-oblong. **16. Draba.**
Pods elongated linear. **18. Arabis.**

1. Stanleya. 444.

1. Stanleya pinnata (Pursh.) Britton.
Sheridan County.

2. Thelypodium. (Iodanthus.) 444.

1. Thelypodium integrifolium (Nutt.) Endl.
In the western part of the state, mostly in the foothills. Alliance; Dawes County; Deuel County; Pine Ridge; Gordon.

3. Lepidium. 445.

Stem leaves clasping, base auricled. **1. L. draba.**
Stem leaves neither clasping nor auricled.
Petals conspicuous, at least equaling the sepals. **2. L. virginicum.**
Petals minute, or wanting, scarcely more than half as long as the sepals.
Plant branched at the base, petals often present, racemes short and dense. **3. L. ramosissimum.**
Plant simple at the base, branched above, racemes elongated. **4. L. apetalum.**

1. Lepidium draba L.
Introduced in the eastern part of the state, but still rare. Lincoln; Wymore.
2. Lepidium virginicum L.
Common in the eastern part of the state, less so in the western. Lincoln; Wahoo.
3. Lepidium ramosissimum A. Nels.
Kearney.
4. Lepidium apetalum Willd.
Common all over the state. Callaway; Lincoln; Minden; Red Cloud; Thedford.

4. Thlaspi. 446.

1. Thlaspi arvense L.
A rather common weed in the eastern part of the state. Ayr; Brunswick; Clay Center; Johnson; Lincoln; Plainview.

5. Sisymbrium. 448.

Pods less than 2 cm. long, pedicels 2 mm. long, flowers 3 mm. long. **1. S. officinale.**
Pods 5 cm. long or more, pedicles 6–8 mm. long, flowers 6 mm. broad. **2. S. altissimum.**

1. Sisymbrium officinale (L.) Scop.
Common in the eastern part of the state. Lincoln; Wahoo.

2. Sisymbrium altissimum L.
Common over most of the state. Cowles; Ewing; Grand Island; Franklin; Newark.
3. Sisymbrium loeselii L.
In an alfalfa field near Arcadia.

6. Sinapis. 449.

1. Sinapis alba L.
Brassica alba (L.) Boiss.
Reported from Weeping Water.

7. Brassica. 449.

Pods less than 2 cm. long. **1. B. nigra.**
Pods over 2 cm. long.
Stem glabrous, beak not over ⅓ the length of the body of the pod. **2. B. juncea.**
Stem hispid, beak nearly half the length of the body of the pod. **3. B. arvensis.**

1. Brassica nigra (L.) Koch. **Wild Mustard.**
A common weed, especially in oat fields, over most of the state. Kearney; Ponca; Wahoo; Weeping Water; Red Cloud; Nemaha; O'Neil.
2. Brassica juncea (L.) Cosson.
Common in Kansas, according to A. S. Hitchcock.
3. Brassica arvensis (L.) B. S. P.
Introduced from Europe and frequent as a weed in grain fields. Douglas County; Lincoln.

8. Barbarea. 451.

1. Barbarea barbarea (L.) Mc. M.
Barbarea vulgaris R. Br.
Accidental in cultivated ground. Callaway.

9. Roripa. (Radicula.) 451.

Terrestrial or marsh plants, leaves pinnatifid, petals yellow.
Plants glabrous or nearly so.
Styles 2–3 cm. long. **1. R. sinuata.**
Styles 1 mm. long or less.
Flowers 2–3 mm. broad, pericels 2–4 mm. long. **2. R. obtusa.**
Flowers 4–6 mm. broad, pedicels 6 mm. long in fruit. **3. R. palustris.**
Plants more or less hirsute. **4. R. hispida.**
Aquatic plants, leaves pinnate, petals white. **5. R. nasturtium.**

1. Roripa sinuata (Nutt.) A. S. Hitchcock.
A common weed all over the state. Bellevue; Crete; Fairbury; Fremont; Kearney; Lincoln; Nebraska City; St. James; Whitney.
2. Roripa obtusa (Nutt.) Britton.
Common in wet ground or shallow water. Big Springs; Crete; Minden; Red Cloud; Wahoo; Whitman; Newark.

3. Roripa palustris (L.) Bess.
An amphibious hydrophyte. Common throughout the state. Ewing; Indianola; Kearney; Lincoln; St. James; Walton; Whitman.
4. Roripa hispida (Desv.) Britton.
Callaway; Kennedy; Lincoln.
5. Roripa nasturtium (L.) Rusby.
In shallow water throughout the state. Bellevue; Grand Rapids; Lincoln; Squaw Canon; Wahoo Creek.

10. Cardamine. 453.

Leaves pinnate, plant more or less pubescent. **1. C. hirsuta.**
Leaves simple, plant glabrous. **2. C. bulbosa.**

1. Cardamine hirsuta L.
In moist places and in streams in the sandhills. Grand Rapids.
2. Cardamine bulbosa (Schreb.) B. S. P.
In wet places in the eastern part of the state. Burwell; Callaway; Fremont; Peru; Richardson County.

11. Dentaria. 455.

1. Dentaria laciniata Muhl.
In meadows and wooded bluffs, mostly along the Missouri. Nemaha; Peru; Table Rock.

12. Physaria. 457.

1. Physaria brassicoides Rydb.
In the foothills, infrequent. Scotts Bluff County.

13. Lesquerella. 457.

Ovary and pods stellate pubescent.
Lower leaves 1–2.5 cm. long, pedicels 6–12 mm. long. **1. L. spathulata.**
Lower leaves 5–8 cm. long, pedicels over 15 mm. long. **2. L. argentea.**
Ovary and pods glabrous.
Sparingly pubescent, stem much branched. **3. L. gracilis.**
Densely stellate pubescent, stem simple. **4. L. ovalifolia.**

1. Lesquerella spathulata Rydg.
Lesquerella alpina (Nutt.) Wats.
In the western part of the state. Belmont; Harrison; Whitney.
2. Lesquerella argentea (Pursh.) Mc. M.
Common in dry sandy prairies. Belmont; Box Butte County; Brunswick; Ewing; Pine Ridge; Sioux County; Wiegand; Valentine.
3. Lesquerella gracilis (Hook.) Watson.
In the southeastern part of the state. Weeping Water.
4. Lesquerella ovalifolia Rydb.
In dry soil in the western part of the state. Kimball County.

14. Bursa. (Capsella.) 459.

1. Bursa bursa-pastoris (L.) Britton.
A common weed in the eastern part of the state. Fairbury; Ft. Robinson; Lincoln; Valentine.

15. Camelina. 459.

1. Camelina sativa (L.) Crantz.
Common over most of the state. Broken Bow; Crete; Lincoln; Pine Ridge; Valentine; Weeping Water.

16. Draba. 460.

Petals white or wanting, stems leafy only below.
  Pods glabrous. **1. D. caroliniana.**
  Pods appressed-hispid. **2. D. michantha.**
Petals yellow, fading to whitish, notched. **3. D. nemorosa.**

1. Draba caroliniana Walt.
Common all over the state. Fairbury; Lincoln; Nebraska City; Red Cloud; Weeping Water; Valentine.
2. Draba micrantha Nutt.
In the western part of the state. Crookston; Minden; Neligh; Red Cloud; Valentine.
3. Draba nemorosa L.
In the western part of the state. Alliance; Ft. Robinson; Rushville.

17. Sophia. (Sisymbrium.) 462.

Seels in one row in each cell of the pod.
  Pods 15–25 mm. long, 1 mm. wide. **1. S. sophia.**
  Pods 8–14 mm. long, 2 mm. wide. **3. S. intermedia.**
Seeds in two rows in each cell of the pod, pods 5–8 mm. long. **2. S. pinnata.**

1. Sophia sophia (L.) Britton.
  Sisymbrium sophia L.
Ewing; Greeley; Ord; Springview.
2. Sophia pinnata (Walt.) Britton.
Chadron; Lincoln; Merriman; Ponca; Wahoo; Whitney.
3. Sophia intermedia Rydb.
Probably occurs all over the state. Weeping Water; Wild Cat Mountains.

18. Arabis. (Including Turritis.) 643.

Base of the stem leaves auricled, clasping.
  Seeds in one row in each cell of the pod.
    Pedicels 2–4 mm. long, pods spreading. **1. A. dentata.**
    Pedicels 6–12 mm. long, pods nearly erect. **2. A. hirsuta.**
  Seeds in two rows in each cell of the pod.
    Pods erect, 5–8 cm. long. **4. A. glabra.**
    Pods reflexed, 2–5 cm. long. **5. A. holboellii.**
Base of leaves narrowed, not clasping. **3. A. canadensis.**

1. Arabis dentata T. & G.
In the eastern part of the state. Lincoln.
2. Arabis hirsuta Scop.
  Arabis ovata (Pursh.) Poir.
In the eastern part of the state. Lincoln; Nebraska City; Neligh; Ponca; Valentine.
3. Arabis canadensis L.
In the southeastern part of the state. Nebraska City.

4. Arabis glabra (L.) Bernh.
In the western part of the state. Dismal River; Long Pine.
5. Arabis holboellii Hornem.
In the foothill regions of the western part of the state. Banner County; Dawes County; Ft. Robinson.

19. Erysimum. 465.

Flowers 4–5 mm. high.
  Pods less than 3 cm. long, pedicels slender. **1. E. cheiranthoides.**
  Pods 3 cm. or more long, pedicels stout. **3. E. repandum.**
Flowers 8–20 mm. high.
  Flowers about 8 mm. high. **2. E. inconspicuum.**
  Flowers 12–20 mm. high. **4. E. asperum.**

1. Erysimum cheiranthoides L. **Worm-seed Mustard.**
Introduced over most of the state. Dismal River; Lincoln; Loup City; Pine Ridge; St. James; Wahoo; Valentine.
2. Erysimum inconspicuum (S. Wats.) Mc. M.
Introduced but not common. Lincoln.
3. Erysimum repandum L.
Long Pine.
4. Erysimum asperum DC.
Common in the western part of the state. Box Butte County; Chadron; Deuel County; Ft. Robinson; Kimball; Pine Ridge; Valentine.

20. Alyssum. 466.

1. Alyssum alyssoides (L.) Greene.
Sometimes escapes from cultivation. Fairbury; Plainview.

21. Conringia. 467.

1. Conringia orientalis DC.
Introduced from the west. Lincoln.

22. Berteroa. 466.

1. Berteroa incana (L.) DC.
Introduced in grass and alfalfa seed. Bethany; Plainview.

4. RESEDACEAE.

Reseda. 469.

1. Reseda lutea L. **Mignonette.**
Rarely escapes from cultivation. Weeping Water.

CARYOPHYLLALES.

Trees or shrubs, flowers dioecious, in aments. **3. Salicaceae.**
Herbs or vines, sometimes woody at the base, flowers not in aments.
  Fruit a capsule, dehiscent by valves or teeth, or circumscissile.
    Ovary one celled.
      Sepals 5 or 4, joints of stem usually swollen. **1. Caryophyllaceae.**
      Sepals 2, leaves usually succulent. **4. Portulacaceae.**
    Ovary 2–several celled.
      Petals present. **2. Elatinaceae.**
      Petals wanting. **5. Aizoaceae.**

Fruit indehiscent or bursting irregularly, petals wanting.
Fruit a berry. **6. Phytolacaceae.**
Fruit an achene or utricle.
Fruit a lenticular or 3-angular achene, stipules usually united, sheathing i. e. ocreae. **10. Polygonaceae.**
Fruit a utricle or anthocarp, stipules not forming ocreae.
Calyx corolloid, its limb deciduous, the base persistent around the fruit. **7. Nyctaginaceae.**
Calyx not corolloid, green or scarious.
Leaves with scarious stipules. **1. Caryophyllaceae.**
Leaves without stipules.
Flowers usually bractless, bracts if present not scarious. **9. Chenopodaceae.**
Flowers with scarious bracts, sepals usually also scarious. **8. Amaranthaceae.**

1. CARYOPHYLLACEAE.

Calyx of united sepals, styles distinct to the base.
Calyx with ten or more ribs.
Styles 5.
Alternate with the calyx teeth. **1. Agrostema.**
Opposite the calyx teeth. **3. Lychnis.**
Styles 3–4. **2. Silene.**
Calyx with 5 ribs.
Petals with a scale at the base of the blade, flowers 2.5 cm. long. **4. Saponaria.**
Petals not appendaged at the base of the blade, flowers 8 mm. broad. **5. Vaccaria.**
Calyx of distinct sepals, styles united or distinct.
Ovules few to many, friut a dehiscent capsule.
Styles distinct to the base.
Petals deeply 2-parted.
Styles 3–5, if 5 alternate with the sepals. **6. Alsine.**
Styles 5, rarely 3–4, opposite the sepals. **7. Cerastium.**
Petals not 2-cleft, entire or emarginate.
Seeds many, without a stophiole. **8. Arenaria.**
Seeds few, with a strophiole. **9. Moehringia.**
Styles united below; leaves subulate. **10. Loeflingia.**
Ovule solitary, fruit a utricle. **12. Anychia.**

1. Agrostemma. 388.

1. Agrostemma githago (L.) Ait.
A common weed in wheat fields. Lincoln; Minden; Weeping Water.

2. Silene. 388.

Leaves apparently verticillte in fours. **1. S. stellata.**
Leaves all opposite.
Calyx bladdery inflated.
Flowers few, subtended by leaf-like bracts. **2. S. nivea.**
Flowers numerous, bracts small or wanting. **3. S. vurgaris.**
Calyx not bladdery, merely expanded by the capsule.
Annuals.

Glabrous, the upper nodes glutinous. **4. S. antirrhina.**
Hirsute or pubescent.
Flowers in a loose panicle, night blooming. **5. S. noctiflora.**
Flowers in one-sided spike. **6. S. dichotoma.**
Perennials, flowers axillary and terminal. **7. S. menziesii.**

1. Silene stellata (L.) Ait. **Starry campion.**
Common in the eastern part of the state, mostly in woods and thickets. Ashland; Cass County; Crete; Lincoln; Neligh; Nemaha; Niobrara; Pierce; Richardson County; Wahoo.
2. Silene nivea (Nutt.) Otth.
In the eastern part of the state. Lincoln.
3. Silene vulgaris (Moench.) Garcke. **Bladder campion.**
Silene latifolia (Mill.) Britton & Rendel.
Frequent in alfalfa fields. Kennedy; Royal; Valentine; Wood River.
4. Silene antirrhina L. **Sleepy catchfly.**
In prairies, meadows and waste places throughout the state. Belmont; Brunswick; Crete; Fairbury; Lincoln; Pulman; Thedford; Valentine; Weeping Water; Weston.
5. Silene noctiflora L. **Night-flowering catchfly.**
Common in waste places over most of the state. Grand Island; Lincoln; Minden; Valentine.
6. Silene dichotoma Ehrh.
Mostly in alfalfa fields. Royal; Weeping Water.
7. Silene menziesii Hook.
In dry soil in the western part of the state. War Bonnet Canon.

3. Lychnis. 391.

1. Lychnis drummondii (Hook.) S. Wats.
Common in the foothills in the western part of the state. Harrison; Pine Ridge; Plummer Ford; Sheridan County; Sioux County.

4. Saponaria. 393.

1. Saponaria officinalis L. **Bouncing bet.**
Frequently escapes from flower gardens. Hat Creek Basin; Long Pine; Lincoln; O'Neil; Plainview; Red Cloud; Richardson County.

5. Vaccaria. 393.

1. Vaccaria vaccaria (L.) Britton. **Cow-herb.**
Saponaria vaccaria L.
A common weed in grain-fields. Crete; Emerson; Lincoln; Plainview; Valentine.

6. Alsine. 394.

Leaves ovate, the lower petioled. **1. L. media.**
Leaves linear, or nearly so, sessile. **2. A. longifolia.**

1. Alsine media L. **Chickweed.**
Introduced but rare. Red Cloud.
2. Alsine longifolia (Muhl.) Britton.
In the western part of the state. Dismal River; Plummer Ford.

7. Cerastium. 397.

Sepals about half as long as the petals.
Leaves linear or linear-oblong, narrowed at the base. **4. C. Arvense.**

Leaves spatulate or lanceolate, the basal perioled.
2. **C. longipedunculatum**

Sepals about as long as the petls.
Perennials, sepals 5–6 mm. long. 1. **C. vulgatum.**
Annuals, sepals 3–4 mm. long. 3. **C. brachypodium.**

1. Cerastium vulgatum L.
In the southeastern part of the state. Crete; Ft. Robinson; Long Pine.

2. Cerastium longipedunculatum Muhl.
Cerastium nutans Raf.
Mostly in the eastern part of the state. Box Butte county; Holdrege; Lincoln; Minden.

3. Cerstaium brachypodium (Englm.) Robinson.
In dry soil over most of the state. Box Butte County; Gordon; Lincoln; Minden; Pulman; Valentine.

4. Cerastium arvense L.
In dry rocky soil in the northwestern part of the state. War Bonnet Canon; Ft. Robinson.

8. Arenaria. 400.

Stems usually less than one dm. high. 1. **A. hookeri.**
Stems over one dm. high. 2. **A. michauxii.**

1. Arenaria hookerii Nutt.
In dry rocky places, mostly in the foothills. Belmont; Crawford; Ft. Robinson; Hat Creek Basin; Pine Ridge.
2. Arenaria michauxii (Fengl.) Hook.
In the western part of the state. Franklin; Red Cloud.

9. Moehringia. 402.

1. Moehringia lateriflora (L.) Fengl.
In the northwestern part of the state. Long Pine; Valentine; War Bonnet Canon.

10. Loeflingia. 403.

1. Loeflingia texana Hook.
In dry soil in the western part of the state. Belmont.

11. Paronychia. 404.

Stems prostrate, spreading; flowers axillary, solitary or in small cymes.
1. **P. depressa.**
Stems erect; flowers in terminal cymes. 2. **P. jamesii.**

1. Paronychia depressa (Nutt.) A. Nels.
Rare on dry hills in the western part of the state.
2. Paronychia jamesii T. & G.
Common in dry soil in the western part of the state. Banner County; Box Butte County; Deuel County; Franklin; Pine Ridge; Sioux County.

12. Anychia. 404.

1. Anychia canadensis (L.) B. S. P.
In woods in the southeastern part of the state. Nehawka; Weeping Water.

2. ELATINACEAE.

Elatine. 629.

1. Elatine triandra Schk.
In shallow water in ponds or creeping on muddy banks. Exeter.

3. SALICACEAE.

Flowers subtended by fimbriated or incised bracts, stamens usually numerous, disc large, cup-shaped. **1. Populus.**
Flowers subtended by entire bracts, stamens usually fed often two, disc minute. **2. Salix.**

1. Populus. 308.

Leaves white tomentose beneath, lobed. **P. alba.**
Leaves not white tomentose when amture, serarte or dentate.
  Leaves broad, not much longer than wide.
    Branches erect or nearly so. **P. italica.**
    Branches spreading.
      Petioles flattened.
        Leaf-blades suborbicular, acute or short acuminate. **5. P. tremuloides.**
        Leaf-blades broadly deltoid or cordate, abruptly long acuminate. **4. P. sargentii.**
      Petiole terete. **1. P. balsamifera.**
  Leaves narrow, at least twice as long as wide.
    Petioles half as long as the blades or longer, abruptly long acuminate. **3. P. acuminata.**
    Petioles one-third as long as the blades, blades lanceolate not long acuminate. **2. P. angustifolia.**

1. Populus balsamifera L.
Rare in the canons of the Hat Creek Basin.
2. Populus angustifolia James.
Rare in the Hat Creek Basin.
3. Populus acuminata Rydb.
Rare in the northwestern part of the state. Gering.
4. Populus sargentii Dode. **Western cotton-wood.**
Populus occidentalis (Rydb.) Britton.
Common along streams all over the state. Lincoln; Red Cloud; Stewart; Thedford; Valentine.
5. Populus tremuloides Michx. **Aspen.**
Common in canons in the northwestern part of the state. Hat Creek Basin; Valentine.

2. Salix. 310.

Stamens 3 or more.
  Petioles without prominent glands, trees.
    Petiole less than one cm. long, leaves narrow lanceolate, dark green beneath. **1. S. Nigra.**
    Petiole 1–3 cm. long, leaves broader, glaucus beneath. **2. S. amygdaloides.**
  Petioles with prominent glands, shrubs. **3. S. lucida.**
Stamens 2.
  Leaves sharply serrate or denticulate.

Leaves remotely denticulate, 2–3 teeth to each cm. **6. S. fluviatilis.**
Leaves finely serrate.
Leaves green or glaucous beneath; teeth gland tipped.
Leaves green on both sides, lighter beneath, staminate ament 2 cm. long. **4. S. cordata.**
Leaves glaucous beneath, staminate amends 3 cm. long. **5. S. missouriensis.**
Leaves grayish pubescent beneath. **8. S. bebbiana.**
Leaves entire, undulate or slightly denticulate or serrate.
Leaves not densely tomentose beneath.
Leaves 1 cm. or more wide, glabrate in age. **7. S. perrostrata.**
Leaves less than 1 cm. wide, permanently silky. **6. S. fluviatilis.**
Leaves densely tomentose beneath.
Petioles 4 mm. long, or more.
Stipules desiduous, petioles 4–12 mm. long. **8. S. bebbiana.**
Stipules commonly persistent, petioles 4–6 mm. long. **9. S. humilis.**
Petioles 2 mm. long. **10. S. tristis.**

1. Salix nigra Marshall. **Black willow.**
In low, wet places mostly along streams, in the eastern part of the state. Fairbury; Nemaha; Peru; Wahoo.
2. Salix amygdaloides Anders. **Peach-leaved willow.**
Along streams over most of the state. Crete; Ewing; Lincoln; Nance County; O'Neill; Red Cloud; Saunders Sounty; St. James.
3. Salix lucida Muhl. **Glossy willow.**
Along streams in the eastern part of the state. Fairbury; Weeping Water.
4. Salix cordata Muhl.
Common, especially along streams and on wooded islands. Belmont; Burwell; Cherry County; Long Pine; Mullen; Norway; Peru; Talmage; Thedford.
5. Salix missouriensis Bebb.
Along streams in the southeastern part of the state. Minden.
6. Salix fluviatilis Nutt. **Sand-bar willow.**
Salix longifolia Muhl.
Common forming dense thickets in wet places mostly along streams. Crete; Lincoln; Milford; Peru; Scotts Bluff County; Thedford; Weeping Water; Valentine.
7. Salix perrostrata Rydb.
In the northwestern part of the state. Pine Ridge.
8. Salix bebbiana Sar.
In dry soil in the western part of the state. Belmont.
9. Salix humilis Marshall.
In dry prairies. Anselmo; Cass County; Cherry County; Crete; Long Pine; Weeping Water; Ewing; Minden.
10. Salix tristis Ait.
Reported from Anselmo.

4. PORTULACACEAE.

Ovary superior, capsule not circumscissile.
Stamens 10 or more, seeds numerous. **1. Talinum.**

Stamens 5, seeds few. **2. Claytonia.**
Ovary partly inferior, capsule circumscssile. **3. Portulaca.**

1. Talinum. 385.

Petals 5, stamens 5. **1. T. parviflorum.**
Petals usually 8–10, stamens 30 or more. **2. T. calycinum.**

1. Talinum parviflorum Nutt.
Talinum terretifolium.
In dry soil mostly in the western part of the state. Long Pine; Minden.
2. Talinum calycinum Engelm.
In dry soil in the western part of the state. Ft. Robinson; Kennedy; Snake River; Valentine.

2. Claytonia. 385.

1. Claytonia virginica L.
Frequent in shady woods along the Missouri. Bellevue; Omaha.

3. Portulaca. 386.

1. Portulaca oleracea L. **Purslane.**
A common weed all over the state. Cheyenne County; Hooker County; Lincoln; Wahoo; Weeping Water.

5. AIZOACEAE.

Mollugo. 384.

1. Mollugo verticilata L.
A common weed in most of the state. Endicott; Kearney; Hastings; Long Pine; Minden; Mullen; O'Neil; Plainview; Red Cloud.

6. PHYTOLACCACEAE.

Phytolacca. 381.

1. Phytolacca decandra L. **Poke-berry.**
In the southeastern part of the state. Richardson County.

7. NYCTAGINACEAE.

Flower cluster subtended by an involucre of united bracts.
Fruit ribbed. **1. Allionia.**
Floyer cluster subtended by an involucre of distinct bracts.
Fruit winged. **2. Abronia.**

1. Allionia. (Oxybaphus. 382.

Leaves broad, often cordate, all distinctly petioled. **1. A. nyctaginea.**
Leaves narrower, never cordate, all or at least the upper sessile.
Leaves ovate to lanceolate. **2. A. hirsuta.**
Leaves linear. **3. A. linearis.**

1. Allionia nyctaginea Michx.
Common all over the state. Crete; Fairbury; Gordon; Lincoln; Mullen; Newcastle; Weeping Water; Wood Lake.

2. Allionia hirsuta Pursh.
Common in dry valleys of the sand-hills and on dry hills over the rest of the state. Ainsworth; Anselmo; Hat Creek Basin; Kearney; Lincoln; Long Pine; Minden; Mullen; Thedford.
3. Allionia linearis Pursh.
Common on dry prairies throughout the state. Alliance; Cedar County; Crete; Deuel County; Fairbury; Franklin; Hastings; Lincoln; Long Pine; Red Cloud; Sioux County.

2. Abronia. 383.

Flowers white, fruit 8–10 mm. high. **1. A. fragrans.**
Flowers pink, fruit 2–3 cm. high. **2. A. micrantha.**
1. Abronia fragrans Nutt.
Common in the sand-hills and in the foothill regions of the western part of the state. Alliance; Banner County; Benkleman; Ft. Robinson; Norfolk; Pine Ridge; Sheridan County; Sioux County.
2. Abronia micrantha (Torr.) Chois.
In the western part of the state. Court House Rock.

8. AMARANTHACEAE.

Plants green, stamens with distinct filaments, leaves alternate.
Perianth present in all flowers. **1. Amaranthus.**
Perianth wanting in the pistillate flowers. **2. Acnida.**
Plants wooly, stamens with united filaments, leaves opposite. **3. Froelichia.**

1. Amaranthus. 377.

Flowers terminal, in more or less elongated spikes.
Sepals clawed, utricle indehiscent. **1. A. torreyi.**
Sepals not clawed, utricle circumscissile.
Spikes 8–14 mm. thick, stem usually pubescent. **2. A. retroflexus.**
Spikes 4–6 mm. thick, stem glabrous. **3. A. hybridus.**
Flowers all in short axillary spikes.
Plant prostrate. **1. A. blitoides.**
Plant erect, bushy branched. **5. A. graecizans.**

1. Amaranthus torreyi (A. Gray.) Benth.
In the western part of the state, not common. Plummer Ford.
2. Amaranthus retroflexus L.
A common weed all over the state. Crete; Lincoln; Long Pine; Mullen; Nebraska City; Red Cloud; Stromsburg; Wahoo; Weeping Water.
3. Amaranthus hybridus L.
In the eastern part of the state. Nebraska City.
3a. Amaranthus hybridus paniculatus (L.) Uline & Bray.
Red Cloud.
4. Amaranthus blitoides S. Wats.
A common weed over the entire state. Belmont; Crete; Hastings; Lincoln; Mullen; Scotts Bluff; Weeping Water; Valentine.
5. Amaranthus graecizans L. **Tumble-weed.**
Common all over the state, but most common in the sand-hill regions. Minden; Valentine.

2. Acnida. 379.

Fruit rough, indehiscent or bursting irregularly. **1. A. tuberculata.**
Fruit circumscissile. **2. A. tamariscina.**

1. Acnida tuberculata Moq.
Acnida tamariscina tuberculata (Moq.) Uline & Bray.
A rather common weed. Cody; Lincoln; Valentine.

2. Acnida tamariscina (Nutt.) Wood.
A common but not important weed over most states. Kennedy; Nemaha; Plummer Ford; Valentine.

3. Froelichia. 380.

Crest of the fruit a continuous dentata ridge, plant over 6 dm. tall. **1. F. floridana.**
Crest of the fruit interrupted, processes almost distinct, plant less than 6 dm. tall. **2. F. gracilis.**

1. Froelichia floridana (Nutt.) Moq.
Froelichia campestris Small.
Common in dry places especially in the sand-hill regions. Anselmo; Cherry County; Knox County; Mullen; Red Cloud; Royal; Thomas County; Valley Junction; Valentine.

2. Froelichia gracilis Moq.
In dry sandy places. Deuel County.

9. CHENOPODIACEAE.

Calyx not horizontally winged.
Stems not jointed, leaves normal.
Utricle not longer than the calyx or the bracts, wingless.
Leaves petioled or if sessile broadest at about the middle.
Flowers mostly perfect, not enclosed by bracts.
Sepals 3–5, stamens 1–5. **1. Chenopodium.**
Sepal 1, stamen 1. **3. Monolepsis.**
Flowers monoecious or dioecious, enclosed by partly united bracts.
Bracts not silky pubescent. **4. Antriplex.**
Bracts silky pubescent. **5. Eurotia.**
Leaves sessile, entire, broadest near the base. **10. Dondia.**
Utricle much exserted beyond the calyx, winger. **7. Corispermun.**
Stems and branches jointed, leaves reduced to scales. **8. Salicornia.**
Fruiting calyx horizontally winged.
Leaves broad, lobed. **2. Cycloma.**
Leaves narrow or linear, entire.
Shrubs with spiny branches. **9. Sarcobatus.**
Herbs.
Leaves not prickly pointed. **6. Kochia.**
Leaves prickly pointed. **11. Salsola.**

1. Chenopodium. 368.

Stems erect, usually tall.
Leaves mostly entire, the lower rarely lobed.
Leaves white-mealy beneath. 2. C. leptophyllum.
Leaves green on both sides.
Leaves linear to oblong, 2–6 mm. wide.
3a. C. leptophyllum subglabrum.
Leaves lanceolate, to oblong-lanceolate, broader. 4. C. boscianum.
Leaves mostly dentate or lobed.
Calyx not red and fleshy in fruit, stamens 5.
Leaves white-mealy beneath.
Leaves ovate to lanceolate, much longer than wide.
1. C album.
Leaves broadly triangular-hastate, nearly as wide as long.
6. C. incanum.
Leaves green on both sides or but slightly mealy beneath.
Leaves as broad as long.
Leaves sinuate-dentate. 5. C. fremontii.
Leaves sharply dentate, with 1–4 large spreading teeth on each side. 8. C. hybridum.
Leaves much longer than wide.
Leaves not strong scented.
Leaves mostly irregularly lobed. 2. C. lanceolatum.
Leaves mostly entire. 4. C. boscianum.
Foliage strong scented.
Leaves at least some of them pinnately lobed.
10. C. botrys.
Leaves ripand-dentate, undulate or the upper entire.
11. C. ambrosioides.
Calyx reddish and slightly fleshy in fruit; stamens 1 or 2.
9. C. rubrum.
Stems prostrate, less than 1 dm. high. 12. C. humile.

1. Chenopodium album L. Lamb's quarters.
A common weed in fields all over the state. Anselmo; Belmont; Broken Bow; Hastings; Lincoln; Mullen; Peru; Thedford.

2. Chenopodium lanceolatum Muhl.
Chenopodium viride L.
Throughout the state, but less common than the last. Long Pine; Red Cloud; Valentine; Wood River.

3. Chenopodium leptophyllum (Moq.) Nutt.
A common weed in the western part of the state. Custer County; Deuel County; Kearney; Lodge Pole Creek; Mullen; Pishelville; Plummer Ford; Valentine.

3a. Chenopodium leptophyllum subglabrum S. Wats.
Nebraska according to Britton's Manual.

4. Chenopodium boscianum Moq.
Through most of the state, but not common. Belmont; Burnett; Long Pine; Red Cloud.

5. Chenopodium fremontii S. Wats.
Common in the western part of the state. Alliance; Anselmo; Banner County; Custer County; Paddock; Valentine; Whitman.

6. Chenopodium incanum (S. Wats.) Heller.
Chenopodium fremontii incanum S. Wats.
In dry ground in the western part of the state. Valentine.
7. Chenopodium urbicum L.
Reported from Cherry County.
8. Chenopodium hybridum L. **Maple-leaved Goosefoot.**
A common weed in waste places over most of the state. Crete; Harrison; Lincoln; Long Pine; Pishelville; Plummer Ford; Red Cloud; Valentine.
9. Chenopodium rubrum L.
In the western part of the state in alkaline or saline soil. Alliance; Grant County; Whitman.
10. Chenopodium botrys L. **Feather geranium.**
Valentine.
11. Chenopodium ambrosioides L. **Mexican tea.**
In the southeastern part of the state. Nemaha.
12. Chenopodium humile Hook.
In alkaline meadows in the western part of the state, according to Rydberg's Flora of Colorado.

2. Cycloma. 372.

1. Cycloma atriplicifolium (Spreng.) Coult. **Tumble weed.**
Occurs all over the state, but most common in the sandhills. Anselmo; Antelope County; Chelsea; Cherry County; Grand Island; Haigler; Lincoln; Long Pine; Louisville; Minden.

3. Monolepsis. 372.

1. Monolepsis nuttalliana Moq.
Throughout the state but not common. Chadron; Central City; Deuel County; Hastings; Long Pine.

4. Atriplex. 372.

Lower leaves broad, triangular-hastate or cordate-ovate, annuals.
  Leaves cordate-ovate, sinuately notched, bracts often colored. **5. A. hortensis.**
  Leaves triangular-hastate.
    Plants green. **1. A. hastata.**
    Plants silvery-scurfy. **2. A. argentea.**
Leaves narrow, linear-oblong to oblanceolate, perennials.
  Bracts not broadly winged, united to the middle. **3. A. nuttallii.**
  Bracts broadly winged, united to near the summit. **4. A. canescens.**

1. Atriplex hastata L.
Atriplex carnosa A. Nels.
Common in caline and alkaline meadows. Alliance; Chadron; Kearney; Lexington; Lincoln.
2. Atriplex argentea Nutt.
In alkaline and saline soil. Salt basin at Lincoln; Scotts Bluff County.
3. Atriplex nuttallii S. Wats.
Common in alkaline soil in the western part of the state. Hat Creek Basin; Long Pine; Scotts Bluff County.
4. Atriplex canescens (Pursh.) James.
Western part of the state.

5. Atriplex hortensis L.
Introduced but not common. Bassett; Chadron; Hastings; Johnstown; Riverton.

5. Eurotia. 374.

1. Eurotia lanata (Pursh.) Moq.
A xerophyte of the foothill region of the western part of the state. Banner County; Cheyenne County; Hat Creek Basin; Lawrence Fork.

6. Kochia. 374.

1. Kochia scoparia L. Roth.
Cultivated in flower gardens and often escapes. Blue Hill; Minden; Oxford; Red Cloud.

7. Corispermum. 374.

Fruit 3–5 mm. long. **1. C. hyssopifolium.**
Fruit about 2 mm. long. **2. C. nitidum.**

1. Corispermum hyssopifolium L.
In sandy soil. Crawford; Scotts Bluff.
2. Corispermum nitidum Kit.
Usually in poor, sandy soil. Box Butte County; Lincoln; Valentine.

8. Salicornia. 375.

1. Salicornia herbacea L. **Glasswort.**
Common in salt basins along Salt Creek, Lincoln.

9. Sarcobatus. 375.

1. Sarcobatus vermiculatus Torr.
In the badlands of the western part of the state. Hat Creek Basin.

10. Dondia. 376.

1. Dondia depressa (Pursh.) Britton.
Sueada depressa (Pursh.) Wats.
In salt basins and alkaline soil. Alliance; Crawford; Chadron; Lexington; Lincoln; Minden.

11. Salsola. 376.

1. Salsola tragus L.
Introduced and a common weed in dry localities or in dry seasons. Aten; Genoa; Lincoln; Long Pine; Valentine.

10. POLYGONACEAE.

Leaves without ocreae, flowers involucrate. **1. Eriogonum.**
Leaves with ocreae, flowers not involucrate.
  Outer sepals spreading in fruit, the inner usually winged often tuburculate. **2. Rumex.**
  Outer sepals erect in fruit, sometimes winged; the inner never winged or tuberculate.
    Achene little if at all exserted. **4. Polygonum.**
    Achene much exserted. **3. Fagopyrum.**

1. Eriogonum. 351.

Achene 3-winged. **1. E. alatum.**
Achenes not winged.
  Involucres in umbels or capitate clusters.

Involucres in umbels, 4–5 mm. high. **2. E. flavum.**
Involucres capitate, about 3 mm. high.
Flowers yellow, glabrous. **3. E. chrysocephalum.**
Flowers white or rose-colored, villous. **4. E. multiceps.**
Involucres in open cymes.
Peduncles not deflexed.
Perennials with a woody base.
Flowers yellow; leaves all basal.
Leaves oblong to linear-oblong, flat. **5. E. campanulatum.**
Leaves narrowly linear, edges revolute. **6. E. brevicaule.**
Flowers not yellow, usually white, stems leafy.
Style branches longer than the ovary, exserted. **7. E. corymbosum.**
Style branches shorter than the ovary, included.
Leaves oblong or oblanceolate. **9. E. microthecium.**
Leaves linear or linear-oblong. **8. E. effusum.**
Annuals, not woody at the base.
Stem leafy below. **10. E. annuum.**
Leaves all basal. **11. E. gordonii.**
Peduncles deflexed. **12. E. cernuum.**

1. Eriogonum alatum Torr.
In sandy soil in the western part of the state. Deuel County.

2. Eriogonum flavum Nutt.
In the sand-hill and foot-hill regions. Belmont; Deuel County; Hat Creek Basin; Pine Ridge; Harrison.

3. Eriogonum chrysocephalum A. Gray.
Nebraska according to Rydberg's Flora of Colorado.

4. Eriogonum multiceps Nees.
In dry prairies and badlands of the western part of the state. Hat Creek Basin; Scotts Bluff County; Sioux County.

5. Eriogonum campanulatum Nutt.
Nebraska according to Rydberg's Flora of Colorado.

6. Eriogonum brevicaule Nutt.
On dry plains in the western part of the state. Scotts Bluff County.

7. Eriogonum corymbosum Benth.
Cheyenne County.

8. Eriogonum effusum Nutt.
On dry prairies in the western part of the state. Kimball County; Scotts Bluff County.

9. Eriogonum microthecum Nutt.
In dry soil in the western part of the state. Cheyenne County; Kimball County.

10. Eriogonum annuum Nutt.
Common in sand-hill and foot-hill regions. Anselmo; Brunswick; Haigler; Harrison; Kearney; Mullen; Pine Ridge; Pishelville; Sioux County; Valentine.

11. Eriogonum gordonii Benth.
Rare in the western part of the state.

12. Eriogonum cernuum Nutt.
Dry plains and badlands of the western part of the state. Banner County; Cheyenne County; Kimball County; Scotts Bluff County.

2. Rumex. 354.

Flowers dioecious, lower leaves hastate, foliage acid. **1. R. acetocella.**
Flowers perfect, leaves not hastate, foliage not acid.
Wings not spiny-margined.
Fruits 2 cm. or more wide, calyx red. **2. R. venosus.**
Fruits less than 2 cm. wide.
Not more than one of the calyx lobes tubercled.
Inner perianth lobes 8–9 mm. broad, reniform. **5. R. patientia.**
Inner perianth lobes 5–6 mm. broad, deltoid ovate. **4. R. altissimus.**
Three of the calyx lobes tubercled.
Wings 6 mm. long, blunt at the apex. **6. R. britannica.**
Wings not over 4 mm. long, acute at the apex.
Leaves wavy-margined, dark green, not glaucescent. **7. R. crispus.**
Leaves flat, light green, and glaucescent. **3. R. salicifolius.**
Wings spiny-margined.
One calyx segment tuberculate, spines short. **8. R. obtusifolius.**
Three of the calyx segments tuberculate, spines long. **9. R. percicarioides.**

1. Rumex acetocella L. **Sour-dock.**
Introduced in various localities in the state. Beatrice; Lincoln; Minden; Valentine.

2. Rumex venosus Pursh.
Common in dry sandy places. Antelope County; Central City; Cherry County; Crowelton; Deuel County; Fairbury; Thedford; Valentine; War Bonnet Canon.

3. Rumex salicifolia Weim.
A common weed in low moist ground. Long Pine; Scotts Bluff County; Weeping Water.

4. Rumex altissimus Wood.
A common weed over most of the state. Bassett; Callaway; Franklin; Lincoln; Ponca; Red Cloud; Wahoo.

5. Rumex patientia L.
A weed in waste places in the eastern part of the state. Mead; Kearney.

6. Rumex britannica L.
Common in low ground. Burwell; Dismal River; Grant County; Keya Paha County; Long Pine.

7. Rumex crispus L.
A common weed throughout the state. Crawford; Coon Creek; Lincoln; Red Cloud; Scotts Bluff County; Talmage.

8. Rumex obtusifolius L.
Mostly in the eastern part of the state. Burwell; Long Pine; Red Cloud.

9. Rumex percicarioides L.
A common weed all over the state. Antelope County; Bellevue; Fremont; Grand Island; Kennedy; Mullen; Pishelville; Scotts Bluff; St. Paul.

3. Fagopyrum. 357.

1. Fagopyrum fagopyrum (L.) Karst. **Buckwheat.**
Fagopyrum esculentum Moench.
Sometimes escapes from cultivation.

4. Polygonum. 358.

Stems without recurved prickles.
Erect or decumbent herbs, calyx lobes neither winged nor keeled in fruit.
Leaves large at least some of them over 5 cm. long.
Racemes dense or loose flowered, flowers not 1 cm. apart.
Racemes terminal only, usually solitary, plants aquatic.
Ocrea without a foliaceous spreading tip.
Plants usually floating, glabrous. **1. P. amphibium.**
Plants usually emersed, glabrous. **3. P. emersum.**
Ocrea with a foliacious tip. **2. P. hartwrightii.**
Racemes axillary as well as terminal, several.
Ocrea without a fringe of marginal bristles.
Racemes erect. **6. P. pennsylvanicum.**
Racemes drooping.
Styles united only at the base. **4. P. incarnatum.**
Styles united to the middle. **5. P. lapathifolium.**
Ocrea fringed with marginal bristles.
Racemes dense flowered. **7. P. percicaria.**
Racemes loose flowered.
Racemes drooping, flowers green. **10. P. hydropiper.**
Racemes erect.
Flowers rose-colored. **8. P. periscarioides.**
Flowers green. **11. P. punctatum.**
Racemes interrupted, flowers 1 cm. apart. **13. P. virginicum.**
Leaves small, not over 5 cm. long, generally much less.
Fruit not reflexed.
Achenes 2–3 mm. long, little if at all exserted.
Plants decumbent.
Leaves mostly acute, achenes 2 mm. long. **14. P. aviculare.**
Leaves mostly obtuse, achenes 3 mm. long. **15. P. buxiforme.**
Plants erect or ascending.
Leaves oval to ovate, flower 1 or 2 in each axil. **16. P. erectum.**
Leaves lanceolate or linear-lanceolate.
Stems telete, leaves flat.
Leaves persistent, achenes reticulate, dull. **18. P. ramosissimum.**
Leaves fugacious, achene, smooth, shining. **19. P. camporum.**
Stems 4-angled, very slender. **21. P. tenui.**
Achenes 5–6 mm. long, exserted. **20. P. exsertum.**
Fruit reflexed, perianth 4-5 mm. long. **22. P. douglassii.**
Climbing vines, outer calyx lobes keeled or winged in fruit.
Outer calyx lobes merely keeled, achenes 3 mm. long. **23. P. convolculus.**

Outer calyx lobes winged and decurrent in fruit, achenes 4–5 mm. long. **24. P. scandens.**
Stems with recurved prickles. **25. P. sagitatum.**

1. Polygonum amphibium L.
Polygonum coccinea Muhl.
In water or sometimes in muddy places. Peru; Richardson County; Swan Lake.
2. Polygonum hartwrightii A. Gray.
In wet places and in shallow water; perhaps only a form of Polygonum amphibium. Cherry County; Thedford; Valentine; Whitman.
3. Polygonum emersum (Michx.) Britton.
Polygonum muhlenberghii (Meisnr.) Wats.
In wet places and in shallow water. Cherry County; Emerson; Kennedy; Richardson County; Whitman.
4. Polygonum incarnatum Ell.
In wet soil, not common. Kennedy; Lincoln; Long Pine; Nemaha; Red Cloud; Weeping Water.
5. Polygonum lapathifolium L.
A common weed in the eastern part of the state, less common in the western part. Dawes County; Mullen; Paddock; Red Cloud; Riverton; Talmage; Whitman.
6. Polygonum pennsylvanicum L.
Polygonum omissum Greene.
Common as a troublesome weed throughout the state. Boelus; Franklin; Indianola; Kearney; Lincoln; Mullen; Paddock; Red Cloud.
7. Polygonum persicaria L.
Common in the eastern part of the state. Bassett; Callaway; Lincoln; Paddock; Valentine; Weeping Water.
8. Polygonum persicarioides H. B. K.
Over most of the state but not common. Newark; Thedford.
9. Polygonum hydropiperoides Michx.
In wet soil, not very common. Ainsworth; Atkinson; Callaway.
10. Polygonum hydropiper L.
In the eastern part of the state. Callaway; Franklin; Grand Rapids; Lincoln; Weeping Water; Nemaha.
11. Polygonum punctatum Ell.
Common in the eastern half of the state. Banner County; Grand Island; Hooker County; Indianola; Lincoln; Wahoo.
12. Polygonum punctatum var. **leptostachyum** (Meisn.) Small.
Thomas County; Hooker County; Grant County.
13. Polygonum verginianum L.
Common in the southeastern part of the state. Endicott; Lincoln; Nebraska City; Richardson County; Nemaha.
14. Polygonum aviculare L.
A common weed all over the state. Callaway; Ft. Robinson; Grand Island; Kearney; Lincoln; Mullen; Pine Ridge; Talmage; Thedford.
15. Polygonum buxiforme Small.
Common all over the state. Alliance; Cheyenne County; Hooker County; Mullen.
16. Polygonum erectum Roth.
Common in the eastern part of the state. Ewing; Ft. Robinson; Lincoln; Talmage.

17. Polygonum prolificum Small.
Nebraska according to Britton's Manual.
18. Polygonum ramosissimum Michx.
Common throughout the state. Anselmo; Hooker County; Lancaster County; Laurel; Mullen; Rock County; Red Cloud; Whitman.
19. Polygonum camporum Meisn.
In prairies throughout the state. Cody; Franklin; Hooker County; Lincoln; Mullen.
20. Polygonum exsertum Small.
Valentine.
21. Polygonum tenue Michx.
In the eastern part of the state. Atkinson; Anselmo; Franklin; Lincoln; Valentine.
22. Polygonum douglassii Greene.
On Lawrence Fork in Banner County.
23. Polygonum convolvulus L. **Bindweed.**
Common in fields and waste places all over the state. Anselmo; Fairbury; Hat Creek Basin; Hooker County; Kimball County; Lincoln; Long Pine; Talmage; Thedford.
24. Polygonum scandens L.
Common in woods mostly along streams. Arapahoe; Banner County; Deuel County; Keya Paha County; Lancaster County; Long Pine.
25. Polygonum sagittatum L.
Endicott; Paddock; Thedford.

GERANIALES.

Trees with pinnate or trifoliate leaves. **6. Rutaceae.**
Herbs, leaves various.
  Leaves trifoliate, leaflets obcordate. **2. Oxalidaceae.**
  Leaves cleft into numerous narrow lobes. **1. Geraniaceae.**
  Leaves neither trifoliate nor cleft into numerous narrow lobes.
    Leaves pinnate. **5. Zygophyllaceae.**
    Leaves simple.
      Flowers with on sepal spurred. **3. Balsaminaceae.**
      Flowers without spurs.
        Flowers irregular, stamens 8, united into 1 or 2 sets. **2. Polygalaceae.**
        Flowers regular often much reduced.
          Ovary round 4–10 celled. **4. Linaceae.**
          Ovary three-lobed or flattened, 3–4 celled.
            Ovary three lobed, three celled, styles three. **8. Euphorbiaceae.**
            Ovary flattened, 4 celled, styles two . **9. Callitricaceae.**

1. GERANIACEAE.

Leaves digitately divided or lobed as wide as long. **1. Geranium.**
Leaves pinnately divided, much longer than wide. **2. Erodium.**

1. Geranium. 357.

Flowers 25 mm. broad and more. **1. G. maculatum.**
Flowers 10–12 mm. broad.

Leaves 3-divided, segments pinnatifid, stamens 10.
2. G. robertianum.
Leaves lobed, fertile stamens 5. **3. G. pussilum.**

1. Geranium maculatum L.
Rare, reported only from Long Pine.
2. Geranium robertianum L.
Reported only from Bancroft.
3. Geranium pussilum Burm.
Probably occurs over most of the state, but not common. Annsworth; Long Pine; Palmer; Red Cloud.

Erodium.

1. Erodium circutarium (L.) L'Her.
Reported from Lincoln.

2. OXALIDACEAE.

Oxalis. 575.

Flowers rose-violet, rarely white. **1. O. violacea.**
Flowers yellow.
Capsules over 15 mm. long, pedicles reflexed. **3. O. stricta.**
Capsules usually less than 15 mm. long.
With creeping rootstalks. **2. O. corniculata.**
Without rootstocks. **4. O. cymosa.**

1. Oxalis violacea L.
Throughout the state except the extreme western part, common in the eastern part. Bassett; Buffalo County; Crete; Ewing; Fairbury; Lincoln; Long Pine; Peru; Valentine.
2. Oxalis corniculata L.
Common over most of the state. Cuba; Ewing; Hastings; Minden; Red Cloud; Valentine.
3. Oxalis stricta L.
Common over most of the state. Callaway; Fairbury; Guide Rock; Lincoln; Newcastle; Thedford.
4. Oxalis cymosa Small.
Lincoln; Red Cloud; Scotia Junction; Valentine.

3. BALSAMINACEAE.

Impatiens. 611.

Sac of spurred sepal longer than broad, spur about ½ as long as the sac. **1. I. biflora.**
Sac of spurred sepal broader than long, spur less than ⅓ as long as the sac. **2. I. pallida.**

1. Impatiens biflora Walt. **Spotted touch-me-not.**
Mostly in open woods along streams. Bellevue; Dismal River; Paddock; Peru; Richardson County; Weeping Water; Valentine.
2. Impatiens pallida Nutt. **Pale touch-me-not.**
In woods in the eastern part of the state. Bellevue; Lincoln; Nemaha; Riverton; Weeping Water.

4. LINACEAE.

Linum. 578.

Flowers blue.
Flowers less than 2 cm. broad. **1. L. usitatissimum.**
Flowers over 2 cm, wide. **2. L. lewisii.**
Flowers yellow.
Flowers small not 15 mm. broad.
Flowers large over 15 mm. lbroad. **3. sulcatum.**
Petals less than one cm. long, sepals not wing-crested. **4. L. rigidum.**
Petals over one cm. long, sepals strongly wing-crested. **5. L. arkansanum.**

1. Linum usitatissimum L. **Flax; linseed.**
Often escapes from cultivation. Broken Bow; Cody; Ponca; Red Cloud; Saunders County.

2. Linum lewisii Pursh.
In the canons of the Hat Creek Basin. Minden; War Bonnet Canon.

3. Linum sulcatum Riddell.
On dry hills in the eastern part of the state. Bassett; Box Butte; Crete; Fairbury; Kearney; Laurel; Lincoln; Long Pine; Valentine.

4. Linum rigidum Pursh.
Common in dry soil in the western part of the state. Anselmo; Box Butte County; Dismal River; Hat Creek Basin; Kearney; Mullen; Pine Ridge; Ponca; St. Helena; Thedford; Valentine.

5. Linum arkansanum Osterh.
Nebraska according to Rydberg's Flora of Calorado.

5. ZYGOPHYLLACEAE.

Tribulus. 580.

1. Tribulus terrestris L.
Introduced but local. Aurora; Newport; Lincoln; Red Cloud.

6. RUTACEAE.

Leaves pinnate. **1. Xanthoxylum.**
Leaves trifoliate. **2. Ptelea.**

1. Xanthoxylum. 581.

1. Xanthoxylum americanum Mill. **Prickly ash.**
Mostly along streams in the eastern part of the state. Ashland; Guide Rock; Long Pine; Milford; Nebraska City; Ponca; Royal; Rulo; Weeping Water.

2. Ptelea. 581.

1. Ptelea trifoliata L.
Thoroughly established and spreading from seed at Hastings.

7. POLYGALACEAE.

Polygala. 582.

Leaves some of them verticellate in 4's and 5's. **1. P. verticillata.**

Leaves all alternate.
Flowers not white.
Inflorescence an elongated spike, not over 8 mm. thick, leaves linear or subulate. **4. P. incarnata.**
Inflorescence globose, over 8 mm. thick, leaves oblong or linear-oblong. **2. P. viridescens.**
Flowers white.
Leaves serrulate, the lower reduced to scales. **3. P. senega.**
Leaves entire. their edges revolute, the lowr not reduced to scales. **6. P. alba.**

1. Polygala verticillata L.
On dry prairies over the entire state. Cherry County; Dakota County; Kearney; Lincoln; Minden; Ewing; Polk County; Red Cloud; Weigand; Weeping Water.
2. Polygala viridescens L.
Atkinson; Neligh; Rock County.
3. Polygala senega L.
Neligh.
4. Polygala incarnata L.
Nebraska according to Gray's Manual.
5. Polygala cruciata L.
Nebraska according to Gray's Manual.
6. Polygala alba Nutt.
Common in prairies in the western part of the state. Anselmo; Belmont; Box Butte County; Culbertson; Kearney; Newcastle; Phelps County; Sioux County; Valentine.

8. EUPHORBIACEAE.

Plants canescent with sellate hairs. **1. Croton.**
Plants glabrous or pubescent with simple hairs.
Styles fringed. **2. Acalypha.**
Styles 2-cleft. **3. Euphorbia.**

1. Croton. 586.

1. Croton texensis (Klotzsch.) Muell.
Common in prairies in the western part of the tsate. Anselmo; Banner County; Broken Bow; Deuel County; Franklin; Haigler; Holt County; Mullen; Pine Ridge; Sheridan County.

2. Acalypha. 588.

1. Acalypha virginica L.
Common in woods in the eastern part of the state. Bellevue; Franklin; Grand Island; Lincoln; Riverton; Wahoo; Weeping Water.

3. Euphorbia. 590.

Leaves all opposite.
Leaves inequilateral, with oblique bases.
Leaves entire.
Leaves linear over 1 cm. long.

Plants prostrate. **6. E. albicaulis.**
Plants erect or ascending.
Appendages of the glands conspicuous, white. **1. E. petaloidea.**
Appendages of the glands greenish-white or obsolete. **2. E. flagelliformis.**
Leaves broader mostly less than 1 cm. long.
Seeds smooth.
Leaves oblong, 4-12 mm. long. **3. E. geyeri.**
Leaves orbicular, ovate or oval, 2–6 mm. long. **4. E. serpens.**
Seeds wrinkled. **10. E. fendleri.**
Leaves serrate or dentate.
Glabrous or nearly so.
Plants prostrate or spreading, leaves 4–15 mm. long.
Seeds strongly transversely wrinkled. **7. E. glyptosperma.**
Seeds pitted or irregularly and faintly wrinkled. **5. E. serpyllifolia.**
Plants erect or ascending, leaves 10–30 mm. long. **11. E. nutans.**
Puberulent or pilose.
Involucres entire, seeds 0.4 mm. long. **8. E. maculata.**
Involucres split on one side, seeds 1 mm. long. **9. E. humistrata.**
Leaves equilateral, the bases not oblique.
Herbage glabrous, stems striate angled. **12. E. hexagona.**
Herbage pubescent.
Leaves linear or linear-lanceolate. **15. E. cuphosperma.**
Leaves broader. **16. E. dentata.**

Leaves, at least some of them, alternate or scattered; plants erect or ascending.

Stems topped by an umbel, which is subtended by a whorl or verticillate leaves, leaves sessile or nearly so.
Leaves entire.
Upper leaves white margined. **14. E. marginate.**
Upper leaves not white margined.
Leaves over 2 cm. long. **13. E. corollata.**
Leaves mostly less than 2 cm. long, the lower scaly.
Rays of the umbel 3–5 subtended by few bracts. **21. E. robusta.**
Rays of the umbel many, subtended by many bracts. **20. E. cyparissias.**
Leaves serrulate.
Styles erect, longer than the ovary, 2-cleft to the middle. **18. E. obtusata.**
Styles spreading, shorter than the ovary, slightly 2-cleft. **19. E. missouriensis.**
Stems not topped by an umbel, no verticillate leaves, leaves slender petioled.
Leaves linear or linear-lanceolate. **15. E. cuphosperma.**
Leaves broader.

Leaves mostly opposite. **16. E. dentata.**
Leaves alternate, very variable, the upper often blotched with red. **17. E. heterophylla.**

1. Euphorbia petaloidea Engelm.
Common in the western part of the state, in sandy soil. Anselmo; Banner County; Benkleman; Franklin; Pine Ridge; Schuyler; Sheridan; Sioux County; Valentine; Weigand; Brunswick.
2. Euphorbia flagelliformis Engelm.
Ft. Robinson; Valentine.
3. Euphorbia geyeri Engelm. & Gray.
On dry sandy ridges and bluffs in the western part of the state. Long Pine; Nattick; Paddock; Plummer Ford; Thedford; Valentine.
4. Euphorbia serpens H. B. K.
In prairies all over the state. Bassett; Kennedy; Lincoln; Niobrara; Red Cloud.
5. Euphorbia serpyllifolia Pers.
In prairies and meadows throughout the state. Grand Island; Lincoln; Niobrara; Saunders County; Valentine.
6. Euphorbia albicaulis Rydb.
Nebraska according to Britton's Manual.
7. Euphorbia glyptosperma Engelm.
In sandy prairies and fields, most abundant westward. Bordeaux; Broken Bow; Dismal River; Fairbury; Franklin; Hooker County; Mullen; Newcastle; Thedford; Valentine.
8. Euphorbia maculata L.
Throughout the state. Ainsworth; Fairbury; Endicott; Lincoln; Saunders County; Steele Creek; Valentine; Weeping Water.
9. Euphorbia humistrata Englem.
In the eastern part of the state. Lincoln; Red Cloud; Weeping Water.
10. Euphorbia fendleri T. & G.
In the western part of the state. Cheyenne County; Upper Lawrence Fork.
11. Euphorbia nutans Lag.
A common weed over most of the state. Arapahoe; Lincoln; Minden; Pishelville; Red Cloud; Saunders County.
12. Euphorbia hexagona Nutt.
Common in dry sandy soil throughout the state. Brunswick; Bellevue; Haigler; Norfolk; Pine Ridge; Red Cloud; Riverton; Ravenna; Spencer; Valentine.
13. Euphorbia corollata L.
Common in meadows in the eastern part of the state. Crete; Bellevue; Cass County; Lincoln; Nemaha; Peru; Wahoo; Weeping Water.
14. Euphorbia marginata Pursh. **Snow on the mountain.**
A common pasture weed in clay soil. Anselmo; Beatrice; Benkleman; Crete; Laurel; Lincoln; Niobrara; Neligh; Wymore.
15. Euphorbia cuphosperma Bois.
In shady canons in the foothills. Banner County.
16. Euphorbia dentata Michx.
Over most of the state. Franklin; Lincoln; Riverton.
17. Euphorbia heterophylla Michx.
In woodlands and thickets mostly in the eastern part of the state. Crete; Franklin; Indianola; Keya Paha; Lincoln; Ft. Niobrara; Nio-

brara; Red Cloud; Wabash.

18. Euphorbia obtusata Pursh.

Low prairies in the eastern part of the state. Lincoln; Red Cloud.

19. Euphorbia missouriensis (Norton.) Small.
Euphorbia dictyosperma F. & M.

In prairies in the eastern part of the state. Beatrice; Crete; Fairbury; Lincoln; Red Cedar Island; St. James.

20. Euphorbia cyparissias L.

Sometimes escapes from cultivation. Crete; Lincoln.

21. Euphorbia robusta (Englem.) Small.

In the western part of the state. Ft. Robinson; Pine Ridge; Sioux County.

9. CALLITRICHACEAE.

Callitriche. 596.

1. Callitriche palustris L.

In shallow running water. Kennedy; Merriman; Pauline.

GUTTIFERALES.

None of the petals spurred, stamens usually numerous.
  Sepals 4 or 5, when 5 all nearly equal, styles 2–5. **1. Guttiferae.**
  Sepals 3 or 5, when 5 the 2 outer much smaller, style single or none. **2. Cistaceae.**
Lower petal spurred; stamens 5, two spurred. **3. Violaceae.**

1. GUTTIFERAE. (HYPERICACEAE.)

Petals 4, sepals 4 in unequal pairs. **1. Ascyrum.**
Petals 5, nearly equal.
  Petals yellow, sometimes mottled.
    Leaves normal. **2. Hypericum.**
    Leaves reduced to scales. **3. Sarothra.**
  Petals pink or purple. **4. Triadenum.**

1. Ascyrum. 625.

1. Ascyrum hyperidoides L.

Nebraska according to Gray's Manual.

2. Hypericum. 265.

Styles 5, capsule 5 celled. **1. H. ascyron.**
Styles 3, capsule 1–3 celled.
  Capsule 3 celled, stamens many.
    Flowers over 15 mm. broad, leaves not over 2 cm. long. **2. H. perforatum.**
    Flowers less than 15 mm. broad, leaves over 2 cm. long. **H. maculatum.**
  Capsule 1 celled, stamens few, not more than 12.
    Leaves lanceolate or ovate, over 4 mm. wide.
      Flowers not over 4 mm. wide, capsule 2–4 mm. long. **3. H. mutilum.**
      Flowers 6–10 mm. broad, capsule 8–10 mm. long. **4. H. majus.**
    Leaves linear 2–4 mm. wide. **5. H. canadense.**

1. Hypericum ascyron L.
Near streams in eastern part of the state. Nehawka.
2. Hypericum perforatum L.
In the eastern part of the state. Lincoln; Valentine.
Hypericum maculatum Walt.
Eastern Kansas.
3. Hypericum mutilum L.
Low ground in the eastern part of the state. Endicott.
4. Hypericum majus (A. Gray.) Britton.
In moist soil over most of the state. Bellevue; Dismal River; Long Pine; Loup City; Lowell; Mead; Minden; Neligh.
5. Hypericum canadense L.
In wet sandy soil in the western part of the state. Chelsea; Cody's Lakes; Minden; Thedford.

3. Sarothra. 628.

1. Sarothra gentianoides L.
In sandy soil, abundant in a pasture near Franklin.

4. Triadenum. 629.

1. Triadenum virginicum (L.) Raf.
In wet soil mostly along streams. Chelsea; Grand Rapids; Kennedy; Ewing; Nattick; Simeon.

2. CISTACEAE.

Flowers yellow, petals 5 or wanting in some of the flowers, capsule 1 celled. **1. Helianthemum.**
Flowers greenish or purplish, petals 3, capsules 3-celled. **2. Lechea.**

1. Helianthemum. 630.

1. Helianthemum majus (L. B. S. P.) **Frost weed.**
In dry soil mostly in the eastern part of the state. Ewing; Long Pine; Louisville; Swan Lake; Oreoplis.

2. Lechea. 631.

Leaves 4–10 mm. wide. **1. L. villosa.**
Leaves 1–2 mm. wide.
Inner sepals 1-nerved. **2. L. tenuifolia.**
Inner sepals 3-nerved. **3. L. stricta.**

1. Lechea villosa Ell.
In dry soil, not common. Ewing; Macon; Minden.
2. Lechea tenuifolia Michx.
In sandy soil along Sand Creek near Minden.
3. Lechea stricta Leggett.
In dry places, not common. Ewing; Long Pine; Swan Lake.

3. VIOLACEAE.

Viola. 633.

Acaulescent, leaves basal except those on the runners, flowers never

yellow.
Leaves at least some of them lobed or divided.
Leaves lobed, the terminal lobe broad.
Basal lobes usually many, cleistogamous flowers on horizontal or deflexed peduncles. **1. V. palmata.**
Basal lobes usually few, cleistogamous flowers on erect peduncles. **5. V. sagittata.**
Leaves pedately divided, into narrow lobes. **3. V. pedatifida.**
Leaves merely serrate or dentate.
Leaves broad, cordate or truncate at the base.
Glabrous or nearly so.
Cleistogamous flowers on erect peduncles, leaves often toothed at the base. **5. V. sagittata.**
Cleistogamous flowers on deflexed peduncles. **4. V. papilionacea.**
Villous pubescent. **2. V. sororia.**
Leaves narrowly lanceolate, tapering at the base. **6. V. lanceolata.**
Caulescent, stems leafy, flowers often yellow.
Stipules not laciniate.
Leaves tapering into margined petioles. **7. V. nuttallii.**
Leaves cordate or truncate at the base.
Petals lemon-yellow, leaves crenate-dentate. **8. V. scabriuscula.**
Petals not yellow, leaves merely serrate. **9. V. canadensis.**
Stipules laciniate, large and foliaceous. **10. V. rafinesquii.**

1. Viola palmata L.
In woods in the eastern part of the state. Omaha; Peru; Red Cloud.

2. Viola sororia Willd.
Viola palmata sororia (Willd.) Pollard.
Lincoln; Red Cloud.

3. Viola pedatifida G. Don.
Common on the prairies in the eastern part of the state. Callaway; Falls City; Lincoln; Nebraska City; O'Neill; Tecumseh.

4. Viola papilionacea Pursh.
In woods and thickets especially along streams over most of the state. Fairbury; Lincoln; Scotia.

6. Viola lanceolata L.
In wet meadows not common. Atkinson; Lynn.

7. Viola nuttallii Pursh.
In dry soil in the western part of the state. Alliance; Cuba; Ft. Robinson; Scotts Bluff County; Valentine.

8. Viola scabriuscula (T. & G.) Schwein.
In woods and thickets in the eastern part of the state. Lincoln; Long Pine; Nebraska City; Peru; Roca.

9. Viola canadensis L.
In woods, mostly along the Missouri and the Niobrara. Bellevue; Belmont; Cuba; Pine Ridge; Ponca; Ft. Robinson; Sioux County.

10. Viola rafinesquii Greene.
Viola tenella Muhl.
Introduced in the eastern part of the state. Blue Springs; Stella.

MALVALES.

Flowers with petals.
  Trees, stamens not united into a tube around the style. **1. Tiliaceae.**
  Herbs, stamen filaments forming a tube around the style. **2. Malvaceae.**
Flowers apetalous.
  Trees.
    Sap not milky, fruits separate. **3. Ulmaceae.**
    Sap milky, fruits aggregated. **4. Moraceae.**
  Herbs or vines.
    Leaves lobed or divided. **4. Moraceae.**
    Leaves serrate, not lobed or divided. **5. Urticaceae.**

1. TILIACEAE.

Tilia. 616.

1. Tilia americana L. **American Linden.**
Mostly along streams in the eastern part of the state. Cuba; Long Pine; Omaha; Ponca; Richardson County; Royal; Valentine; Weeping Water; Wymore.

2. MALVACEAE.

Carpels 1 ovuled.
  Flowers mostly over 8 mm. broad, never yellow.
    Glabrous or pubescent with simple hairs.
      Carpels beakless petals obcordate. **1. Malva.**
      Carpels beaked, petals truncate. **2. Callirrhoe.**
    Pubescent with stellate hairs. **3. Malvastrum.**
  Flowers small, 4-8 mm. broad, yellow. **4. Sida.**
Carpels 2-many ovuled.
  Involucel none. **5. Abutilon.**
  Involcucel of numerous narrow bracts. **6. Hibiscus.**

1. Malva. 618.

Erect or ascending, flowers over 15 mm. broad, carpels about 10. **1. M. sylvestris.**
Procumbent, flowers less than 15 mm. broad, carpels about 15. **2. M. rotundifolia.**

1. Malva sylvestris L. **High Mallow.**
Rare in waste places. Beaver City; Red Cloud.

2. Malva rotundifolia L. **Running mallow.**
Introduced in various localities throughout the state. Callaway; Bazile Mills; Kearney; Lincoln; Minden.

2. Callirrhoe. 619.

Involucel wanting, flowers pick or white, 2–3 cm. broad. **1. C. alceoides.**
Involucel of three bracts, flowers reddish purple, 2–6 cm. broad. **2. C. involucrata.**

1. Callirrhoe alceoides (Michx.) A. Gray. **Poppy mallow.**
Fairly common in the eastern half of the state. Cowles; Crete; Fairbury; Lincoln; Minden; Peru; Walton; Weeping Water.

2. Callirrhoe involucrata (T. & G.) A. Gray.
In dry soil throughout the state, common in the western part. Callaway; Cambridge; Franklin; Grand Island; Kearney; Nebraska City; Nelson; Red Cloud.

3. Malvastrum. 620.

1. Malvastrum coccineum (Pursh.) A. Gray. **Red mallow.**
Common in dry soil in the western part of the state. Alliance; Antelope County; Belmont; Broken Bow; Grand Island; Scotts Bluff; Red Cloud; Valentine.

4. Sida. 620.

1. Sida spinosa L.
In dry soil in the southeastern part of the state. Nebraska City; Nemaha.

5. Abutilon. 621.

1. Abutilon abutilon (L.) Rusby. **Velvet leaf.**
Abutilon theophrasti Medic.
Common in the eastern part of the state. Dakota County; Lincoln; Omaha; Peru; Weeping Water.

6. Hibiscus. 622.

Glabrous, flowers pink, involucral, bracts not ciliate. **1. H. militaris.**
Pubescent with spreading hairs, flowers yellow, bracts of the involucel ciliate. **2. H. trionum.**

1. Hibiscus militaris Cav. **Halbred-leaved rose-mallow.**
Along streams in the eastern part of the state. Ashland; Glen Rock; Hooper; Nemaha.

2. Hibiscus trionum L.
Introduced, common in the eastern part of the state. Grand Island; Lincoln; Minden; Pishelville; Red Cloud; Roca; Weeping Water.

3. ULMACEAE.

Fruit a samara, flowers borne on last year's twigs. **Ulmus.**
Fruit a drupe, flowers borne on twigs of the season. **2. Celtis.**

1. Ulmus. 337.

Samaras with ciliate margins, bud-scales not brown-tomentose.
Samaras with glabrous faces, branches not winged. **1. U. americana.**
Samaras with pubescent faces, branches winged. **2. U. racemosa.**
Samaras with smooth margins, bud-scales brown-tomentose; leaves very rough above. **3. U. fulva.**

1. Ulmus americana L. **White elm.**
In moist, rich soil along streams over most of the state. Alliance; Culbertson; Hooker County; Lincoln; Saltillo; Wahoo.

2. Ulmus racemosa Thomas . **Cork or rock elm.**
Ulmus thomasi Sarg.
Along streams, not common. Meadville; Plattsmouth; Valentine.
3. Ulmus fulva Michx. **Slippery or red elm.**
Along streams, a smaller tree and less common than the white elm. Crete; Guide Rock; Red Cloud; Richardson County; Wahoo; Weeping Water.

2. Celtis. 339.

1. Celtis occidentalis L. **Hackberry.**
Common throughout the state, mostly along streams. Anselmo; Aten; Banner County; Endicott; Hooker County; O'Neill; Red Cloud; Thedford.

4. MORACEAE.

Trees. **1. Morus.**
Vines with lobed leaves. **2. Humulus.**
Herbs with divided leaves. **3. Cannabis.**

1. Morus. 340.

Leaves rough above, pubescent beneath, fruit purple. **1. M. rubra.**
Leaves smooth and shining, fruit whitish. **2. M. alba.**

1. Morus rubra L. **Red mulberry.**
Along streams in the southeastern part of the state. Endicott; Nehawka; St. James; Nemaha.
2. Morus alba L. **White or Russian mulberry.**
Sometimes escapes from cultivation. Weeping Water.

2. Humulus. 341.

1. Humulus lupulus L. **Hops.**
In woods and thickets throughout the state. Brunswick; Gage County; Holt County; Hooker County; Lincoln; Sioux County; Wahoo.

3. Cannabis. 341.

1. Cannabis sativa L. **Hemp.**
Sometimes escapes from cultivation. Crete; Long Pine; Lincoln; Red Cloud; Rushville.

5. URTICACEAE.

Leaves at least some of them opposite.
Plants with stinging hairs. **1. Urtica.**
Plants without stinging hairs.
Calyx of pistillate flowers of 3 sepals, achene 1 mm. long. **3. Adicea.**
Calyx of pistillate flowers tubular, 2–4 toothed, achene nearly 2 mm. long. **4. Boehmeria.**
Leaves all alternate.
Flowers in loose axillary cymes, not involucrate. **2. Urticastrum.**
Flowers glomerate, involucrate. **5. Parietaria.**

1. Urtica. 342.

Leaves ovate, cordate plant very bristly. **1. U. dioica.**
Leaves lanveolate, rarely cordate, plant sparingly bristly. **2. U. gracilis.**

1. Urtica dioica L. **Stinging nettle.**
Reported from Weeping Water.
2. Urtica gracilis Ait. **Slender Nettles.**
Throughout the state, common in woods and thickets. Keya Paha County; Lincoln; Mullen; Plummer Ford; Red Cloud; Republican; Walton.

2. Urticastrum. 342.

1. Urticastrum divaricatum (L.) Kuntze. **Wood nettle.**
Laportea canadensis (L.) Gaund.
Common in woods in the eastern part of the state. Endicott; Lincoln; Neligh; Saltillo; Valentine.

3. Adiceae. 343.

1. Adiceae pumila (L.) Raf. **Clear weed.**
Pilea pumila (L.) Gray.
In wet shady places in the eastern part of the state. Burwell; Endicott; Fremont; Gage County; Lincoln; Long Pine; Mullen.

4. Boehmeria. 343.

1. Boehmeria cylindrica (L.) Willd. **False nettle.**
In wet shady places throughout the state, except the extreme western part. Boelus; Callaway; Kearney; Nattick; Pishelville; Sargent; Simeon.

5. Parietaria. 343.

1. Parietaria pennsylvanica Muhl. **Pellitory.**
In dry woods and thickets throughout the state. Belmont; Callaway; Long Pine; Lincoln; Weeping Water; Red Cloud; Valentine.

SUBCLASS HETEROMERAE.

PRIMULALES.

Sepals and corolla lobes usually 5 or more, corolla normal. capsule circumscissile only in Anagallis and Centrunculus. **1. Primulaceae.**
Sepals and corolla lobes 4. corolla scarious, capsule circumscissile. **2. Plantaginaceae.**

1. PRIMULACEAE.

Corolla not reflexed.
  Capsule not circumscissile.
    Scapose plants with white or pink flowers. **1. Androsace.**
    Leafy-stemmed plants, with yellow flowers.
      Flowers solitary in the axils. **2, Steironema.**
      Flowers in axillary spike-like racemes or heads. **3. Naumbergia.**
  Capsule circumscissile.
    Flowers on peduncles over 1 mm. long. **4. Anagalis.**
    Flowers sessile or nearly so. **5. Centrunculus.**
Corolla reflexed. **6. Dodecathion.**

1. Androsace. 714.

1. Androsace occidentalis Pursh.
In dry soil throughout the state. Crete; Fairbury; Franklin; Lincoln; Nebraska City; Red Cloud; Wahoo; Valentine.

2. Steironema. 716.

Leaves ovate to ovate-lanceolate on long ciliate petioles. **1. S. ciliatum.**
Leaves linear, sessile or nearly so. **2. S. quadriflorum.**
1. Steironema ciliatum (L.) Raf. **Loosestrife.**
Common in low prairies and meadows throughout the state; often found in the edges of thickets, in ditches and along streams. Anselmo; Aten; Cherry County; Kearney; Lincoln; Minden; Sioux County; Talmage.
2. Steironema quadrifolia (Sims.) Hitch.
In the Republican valley, not common. Franklin; Macon; Riverton.

3. Naumbergia. 717.

1. Naumbergia thyrsiflora (L.) Duby. **Tufted loosestrife.**
Frequent in marshes and edges of pools and streams in the sandhills. Ewing; Grand Rapids; Grant County; Newark; Plainview; Valentine.

4. Anagallis. 718.

1. Anagallis arvensis L.
Lincoln.

5. Centrunculus. 718.

1. Centrunculus minimus L.
Rare in dry soil. Atkinson; Fairbury; Fairfield; Johnson.

6. Dodecatheon. 719.

1. Dodecatheon radicatum Greene.
Rare in the western part of the state. Paxton.

2. PLANTAGINACEAE.

Plantago. 856.

Leaves, ovate, lanceolate or spatulate.
Leaves ovate.
Pyxis ovoid, circumscissile at the middle. **1. P. major.**
Pyxis oblong, circumscissile much below the middle. **2. P. rugelii.**
Leaves lanceolate or spatulate.
Corolla of fertile flowers spreading.
Pyxis circumscissile at the middle. **3. P. lanceolata.**
Pyxis circumscissile below the middle. **4. P. eriopoda.**
Corolla of the fertile flower erect. **8. P. virginica.**
Leaves linear or filiform, 1–8 mm. mide.
Bracts not much longer than the flowers.
Leaves 3-8 mm. wide, spike dense. **5. P. purshii.**
Leaves 1 mm. wide, spike loose-flowered. **9. P. elongata.**

Bracts 2–10 times as long as the flowers.
Bracts 7–17 mm. long, 2–5 times as long as the flowers. **6. P. spinulosa.**
Bracts 10–30 mm. long, many times as long as the flowers. **7. P. aristata.**

1. Plantago major L. **Common Plantain.**
A common weed in waste places throughout the state. Anselmo; Belmont; Crete; Lincoln; Peru; Talmage; Tecumseh.
2. Plantago rugelii Dec.
In waste places, less common than the last. Crete; Ewing; Grand Island; Lincoln; Republican Valley.
3. Plantago lanceolata L. **Rib Grass.**
Common in the southeastern part of the state. Crete; Grand Island; Holdrege; Lincoln; Minden; O'Neill.
4. Plantago eriopoda Torr. **Saline Plantain.**
In saline or alkaline soil. Alliance; Grand Island; Kearney; Sheridan County; Sidney; Wood River.
5. Plantago purshii R. & S.
A common weed in dry soil throughout the state. Anselmo; Callaway; Deuel County; Fairbury; Lincoln; Perkins County; St. James; Sioux County; Wahoo.
6. Plantago spinulosa Dec.
In dry soil, mostly in waste places. Kearney; Minden.
7. Plantago aristata Michx.
In dry soil throughout the state. Brunswick; Lincoln; Hastings; Minden; Nemaha; Oreopolis; Valentine.
8. Plantago virginica L.
In dry soil in the southeastern part of the state. Weeping Water.
9. Plantago elongata Pursh.
Plantago myosuroides Rydb.
In dry soil, not common. Anselmo; Lincoln; Mansfield; Weeping Water.

ERICALES.

Shrub, fruit a berry in our species. **1. Ericaceae.**
Herbs, fruit a capsule. **2. Pirolaceae.**

1. ERICACEAE.

Arctostaphylos. 706.

1. Arctostaphylos uva-ursa (L.) Spreng.
In dry soil in Custer County.

2. PIROLACEAE.

Leaves normal, evergreen. **1. Pirola.**
Leaves reduced to scales, not green.
Flowers many, corolla gamopetalous. **2. Pterospora.**
Flowers solitary, corolla polypetalous. **3. Monotropa.**

1. Pirola. 693.

Raceme regular, capsule about 6 mm. in diameter.

Leaf blades orbicular, rarely over 2.5 cm. long, scape 3–10 flowered. **1. P. chlorantha.**
Leaf blades oval or elliptic, 3.5–4.5 cm. long, scape 7–15 flowered. **2. P. elliptica.**
Raceme secund, capsule about 4 mm. in diameter. **3. P. secunda.**

1. Pirola chlorantha Sw. **Green Flowered Wintergreen.**
On dry pine woods in the western part of the state. War Bonnet Canon.

2. Pirola elliptica Nutt. **Shin-Leaf.**
In dry pine woods in the western part of the state. Long Pine.

3. Pirola secunda L. **One-Sided Wintergreen.**
In dry pine woods in the western part of the state. Sioux County.

2. Pterospora. 695.

1. Pterospora andromeda Nutt. **Pine Drops.**
In the pine woods of the northwestern part of the state. Sioux County.

3. Monotropa. 696.

1. Monotropa uniflora L. **Indian Pipe.**
Rare in dense woods along the Missouri. Washington and Cass Counties.

SUB-CLASS BICARPELLATAE.

POLEMONIALES.

Ovary not deeply lobed, carpels not separating into distinct nutlets at maturity.
Ovary 2–5 celled.
Fruit various but neither a berry nor a large prickly capsule.
Twining vines. **1. Convolvulaceae.**
Herbs not twining.
Ovary 3 celled. **1. Polemoniaceae.**
Ovary 2 celled.
Flowers in dense capitate clusters. **1. Polemoniaceae.**
Flowers solitary in the axils. **2. Convolvulaceae.**
Fruit a berry or a large prickly capsule. **5. Solanaceae.**
Ovary 1-celled, styles and stigmas 2. **3. Hydrophylaceae.**
Ovary deeply 4 (or rarely 2) -lobed, carpels separating into 4 nutlets at maturity. **4. Boraginaceae.**

1. POLEMONIACEAE.

Stamens inserted at very unequal heights in the corolla tube, leaves entire.
Leaves opposite, corolla with a narrow throat, stamens included. **1. Phlox.**
Leaves alternate, corolla with a broad throat, stamens usually exserted. **3. Collomia.**
Stamens inserted at equal or nearly equal heights in the corolla, leaves various, rarely entire.
Calyx lobes not spiny tipped. **2. Gilia.**
Calyx lobes spiny tipped. **4. Navarretia.**

1. Phlox. 756.

Flowers clustered, 2-many at the ends of the stems or branches, leaves never imbricated.
Stems many flowered, leaves usually over 2 cm. long.
Calyx teeth shorter than the tube, calyx ¼ as long as the corolla.
Calyx teeth more than half the length of the tube. **P. paniculata.**
Calyx teeth about ¼ the length of the tube. **1. P. maculata.**
Calyx teeth longer than the tube, calyx ½ as long as the corolla.
Flowers usually pink or purple, no sterile decumbent shoot or runners at the base. **2. P. pilosa.**
Flowers bluish, sterile decumbent shoots or runners present at the base. **3. P. divaricata.**
Stems 2–few flowered, leaves not over 2 cm. long.
Flowers blue or lilac, stems caespitose spreading from a woody root. **5. P. kelseyi.**
Flowers white, stems erect from rhizomes. **8. P. andicola.**
Flowers solitary at the ends of the stems or branches, leaves often imbricated.
Leaves very short, about 2 mm. long. **6. P. bryoides.**
Leaves longer, 4–14 mm. long.
Corolla-tube not longer than the calyx. **7. P. hoodii.**
Corolla-tube longer than the calyx. **4. P. caespitosa.**

Phlox paniculata L. **Garden Phlox.**
Occurs in the northeastern county of Kansas and probably in southeartern Nebraska.

1. Phlox maculata L.
Reported from Talmage.

2. Phlox pilosa L.
In dry soil in the eastern part of the state. Ashland; Emerson; Omaha; Richardson County; Weeping Water; Leshara.

3. Phlox divaricata L.
In moist woods in the eastern uart of the state. Bellevue; Lincoln; Omaha; Peru; Weeping Water.

4. Phlox caespitosa Nutt.
In dry soil in the foot-hills. Scotts Bluff County.

5. Phlox kelseyi Britton.
Western Nebraska according to Britton's Manual.

6. Phlox bryoides Nutt.
In dry soil in the western part of the state. Kimball County.

7. Phlox hoodii Richards.
In dry sandy or orcky soil in the western part of the state. Fort Robinson; Gordon; Scotts Bluff County.

8. Phlox andicola (Britton) A. Nels.
Phlox douglasii andicola Britton.
In dry sandy soil in the western part of the state. Banner County; Hat Creek Basin; Valentine.

2. Gilia. 759.

Flowers openly paniculate or thyrsoid-paniculate.
  Leaves entire. **1. G. gracilis.**
  Leaves palmately divided into 3–7 narrow subulate lobes. **2. G. caespitosa.**
  Leaves pinnately divided.
    Flowers over 25 mm. long. corolla-tube many times as long as the calyx.
      Flowers white. **3. G. longifolia.**
      Flowers scarlet or red. **4. G. aggregata.**
    Flowers about 10 mm. long. **5. G. pinnatifida.**
Flowers capitately or spicately glomerate.
  Flowers in an elongated spicate thyrsus. **6. G. spicata.**
  Flowers mostly in capitate clusters at the ends of the branches.
    Corolla-tube but little longer than the calyx. **7. G. iberidifolia.**
    Corolla-tube about twice as long as the calyx. **8. G. pumila.**

1. Gilia gracilis Hook.
Microsteris micrantha (Kellogg.) Greene.
Sandy soil in the western part of the state. Deuel County; Merriman.

2. Gilia casepitosa (Nutt.) A. Nels.
Leptodactylon caespitosa Nutt.
In dry soil in the western part of the state. Scotts Bluff County.

3. Gilia longiflora (Torr.) Don.
In dry soil in the western part of the state. Box Butte County; Crawford; Kearney County; Rock County; Whitman.

4. Gilia aggregata (Pursh.) Spreng.
Nebraska according to Britton's Manual.

5. Gilia pinnatifida Nutt.
Dry soil in the western part of the state. Scotts Bluff County.

6. Gilia spicata Nutt.
Banner County.

7. Gilia iberidifolia Benth.
In dry soil in the western part of the state. Belmont; Ft. Robinson; Scotts Bluff County; Sioux County.

8. Gilia pumila Nutt.
In dry soil in the western part of the state. Belmont; Hat Creek Basin; Long Pine.

3. Collomia. 761.

1. Collomia linearis Nutt.
Dry soil, mostly in the sand-hill and foot-hill regions. Aten; Box Butte County; Brunswick; Deuel County; Hat Creek Basin; Harrison; Pine Ridge.

4. Navarretia. 762.

1. Navarretia Minima Nutt.
In dry sandy soil in the northwestern part of the state. Rushville.

2. CONVOLVULACEAE.

Green plants with normal leaves.
  Styles distinct to the base, each 2-cleft, leaves sessile. **1. Evolvulus.**
  Styles united to the stigmas.
    Stigmas ovoid or sub-globose, ovary usually 3-celled or the leaves linear. **2. Ipomoea.**
    Stigmas filiform to oblong-cylindric, ovary 2-celled, leaves never linear. **3. Convolvulus.**
Yellowish plants, leaves reduced to small scales. **4. Cuscuta.**

1. Evolvulus. 751.

1. Evolvulus nuttalianus R. & S.
In dry sandy soil in the western part of the state. Deuel County; Fairbury; Kearney; Merriman; Minden; Valentine.

2. Ipomoea. 751.

Leaves linear, stems not trailing or twining. **1. I. leptophylla.**
Leaves broadly ovate, cordate, stems trailing or twining.
  Leaves entire, sepals acute usually less than 15 mm. long. **2. I. purpurea.**
  Leaves 3-lobed, sepals with long linear tips, over 15 mm. long. **3. I. hederaceae.**

1. Ipomoea leptophylla Torr. **Bush Morning-Glory.**
In dry soil, mostly in the sand-hills and in the western part of the state. Ainsworth; Banner County; Benkleman; Custer County; Deuel County; Lincoln; Long Pine; Plummer Ford; Royal; Weigand; Valentine.
2. Ipomoea purpurea Lam. **Morning-Glory.**
Sometimes escapes from cultivation. Richardson County.
3. Ipomoea hederacea Jacq.
Introduced in the eastern part of the state. Havelock; Lincoln; Richardson County; Red Cloud.

3. Convolvulus. 753.

Bracts large, enclosing the calyx.
  Glabrous or slightly hairy, leaves 5 cm. or more long, hastate, the lobes acute, often sinuate-dentate. **1. C. americanus.**
  Densely pubescent, leaves 5 cm. or less long, sagittate, the lobes rounded, entire. **2. C. interior.**
Bracts small, remote from the calyx.
  Plant glabrous or nearly so, leaves hastate, entire. **3. C. arvensis.**
  Plant canescent, leaves usually lobed or dissected. **4. C. hermannioides.**

1. Convolvulus americanus (Sims.) Greene. **Large Bind-Weed.**
Convolvulus sepium L.
A common weed throughout most of the state. Fairbury; Indianola; Lincoln; Ponca; Valentine.
2. Convolvulus interior House.
Convolvulus repens L.
Common as a weed over a large part of the state. Callaway; Fairbury; Plainview; Red Cloud.

3. Convolvulus arvensis L. **Small Bind-Weed.**
A common weed in fields and waste places. Grand Island; Lancaster County; Nemaha; Wood River.
4. Convolvulus hermannioides A. Gray.
Nebraska according to Rydberg's Flora of Colorado.

4. Cuscuta. 754.

Styles little if any longer than the ovary, usually shorter.
Flowers sessile, corolla persistent at the base of the capsule.
Corolla scales large, deeply fringed. **1. C. arvensis.**
Corolla scales small, often reduced to a few teeth. **2. C. polygonorum.**
Flowers pedicelled, corolla enclosing or persistent at the summit of the capsule.
Flowers 3-5 mm. long. **3. C. indecora.**
Flowers about 2 mm. long.
Corolla lobes about as long as the tube, the tips inflexed. **4. C. coryli.**
Corolla lobes half as long as the tube, the tips not inflexed. **5. C. cephalanthi.**
Styles several times as long as the ovary.
Flowers pedicelled, with 2-several entire bracts at the base. **6. C. cuspidata.**
Flowers sessile, subtended by 8-15 serrulate bracts. **7. C. paradoxa.**

1. Cuscuta arvensis Beyrich. **Field Dodder.**
Fairly common on various herbs. Kearney; Lincoln; Minden; Red Cloud; Sheridan.
2. Cuscuta polygonum Englem.
Cuscuta obtusiflora H. B. K.
Over most of the state. Bloomington; Callaway; Lincoln; Valentine.
3. Cuscuta indecora Choisy. **Pretty Dodder.**
On various herbs and shrubs. Crawford; Holt County; Mullen; Red Cloud; Valentine; Wood Lake.
4. Cuscuta coryli Engelm. **Hazel Dodder.**
On hazel, willow and various herbs. Arapahoe; Chelsea; Dismal River; Long Pine; Thedford.
5. Cuscuta cephalanthi Engelm.
On willows. Kearney.
6. Cuscuta cuspidata Engelm.
On Ambrosia trifida and artemesiafolia. Bellevue; Lincoln; Valentine; Whitman.
7. Cuscuta paradoxa Raf. **Glomerate Dodder.**
Cuscuta glomerata Choisy.
On Helianthus, Solidago and Asclepias. Arapahoe; Holt County; Kearney; Lincoln; Nemaha; Wahoo; Wood River.

3. HYDROPHYLLACEAE.

Leaves all alternate. **1. Hydrophyllum.**
The lower leaves opposite, the upper alternate.
Stamens included, corolla lobes convolute. **2. Macrocalyx.**
Stamens exserted, corolla lobes imbricated. **3. Phacelia.**

1. Hydrophyllum. 762.

1. Hydrophyllum virginicum L.
In rich woods in the eastern part of the state. Lincoln; Nebraska City; Ponca; Weeping Water.

2. Macrocalyx. 763.

1. Macrocalyx nyctelea (L.) Kuntze.
Ellisia nyctelea L.
In moist shady places throughout the state. Box Butte County; Fairbury; Lincoln; Red Cloud; St. Helena; Thedford.

3. Phacelia. 764.

1. Phacelia leucophylla Torr.
In dry soil in the western part of the state. Harrison; Pine Ridge; Scotts Bluff County; Sioux County; War Bonnet Canon.

4. BORAGINACEAE.

Ovary not deeply 4-lobed, style terminal. **1. Heliotropium.**
Ovary deeply 4-lobed, style arising between the lobes.
  Flowers regular.
    Nutlets prickly.
      Nutlets spreading, extending but little above point of attachment. **2. Cynoglossum.**
      Nutlets erect, extending far above point of attachment. **3. Lappula.**
    Nutlets not prickly.
      Receptacle conic, nutlets laterally attached.
        Most of the leaves with axillary flowers. **4. Allocarya.**
        Only the upper leaves with axillary flowers.
          Inflorescense naked or bracteolate. **5. Cryptanthe.**
          Inflorescense leafy. **6. Oreocarya.**
      Receptacle flat or convex.
        Inflorescense not leafy-bracted. **7. Mertensia.**
        Inflorescense leafy-bracted.
          Corolla lobes rounded. **8. Lithospermum.**
          Corolla lobes acute. **9. Onosmodium.**
  Flowers irregular. **10. Echium.**

1. Heliotropium. 767.

Flowers in dense scorpioid spikes. **1. H. spathulatum.**
Flowers mostly solitary, opposite the leaves. **2. H. convolvulaceum.**

1. Heliotropium spathulatum Rydb.
Heliotropium curassavicum L.
In the western part of the state. Alliance; Banner County.

2. Helitropium convolvulaceum (Nutt.) A. Gray.
Euploca convolvulacea Nutt.
Western Nebraska according to Britton's Manual.

2. Cynoglossum. 768.

1. Cynoglossum officinalis L.
Introduced in the eastern part of the state. Homesville; Weeping Water.

3. Lappula. 768.

Inflorescense leafy-bracted nearly or quite to the top.
  Marginal prickles not united by their bases.
    Prickles numerous, in two rows on the margins. **1. L. lappula.**
    Prickles 7-11 not in double rows.. **3. L. occidentalis.**
  Marginal prickles united by their bases into a distinct cup in at least 3 of the nutlets. **2. L. texana.**
Inflorescense leafy-bracted only at the base, bracts minute above.
  Marginal prickles distinct to the base or nearly so, fruiting pedicels deflexed.
    Lower leaves over 25 mm. wide, the basal cordate, corolla 2 mm. wide. **4. L. virginiana.**
    Lower leaves less than 20 mm. wide.
      Flowers over 6 mm. wide, fruit 6 mm. broad. **6. L. floribunda.**
      Flowers less than 4 mm. broad, fruit 4 mm. broad. **5. L. americana.**
  Marginal prickles united for ⅓ to ½ of their length. **7. L. scaberrima.**

1. Lappula lappula L.) Karst.
A common weed locally in the eastern part of the state. Lincoln; St. James; Wahoo.

2. Lappula texana (Scheele.) Britton.
Lappula cupulata (A. Gray.) Rydb.
Common in the western part of the state. Alliance; Aten; Box Butte County; Perkins; Thedford; Valentine.

3. Lappula occidentalis (S. Wats.) Greene.
In dry, sandy places in the western part of the state. Belmont; Deuel County; Phelps County; Pine Ridge; Valentine.

4. Lappula virginiana (L.) Greene.
in woods and thickets mostly in the eastern part of the state. Dakota County; Pishelville; Republican.

5. Lappula americana (A. Gray.) Rydb.
Lappula deflexa var. **americana** (A. Gray.) Greene.
in woods and thickets in the western part of the state. Chadron; Beaver Creek; Plummer Ford.

6. Lappula floribunda (Lehm.) Greene.
In the western part of the state, mostly in plum thickets. Banner County; Crawford; Pine Ridge.

7. Lappula scaberrima Piper.
In sandy soil in the western part of the state. Nebraska according to Rydberg's Flora of Colorado.

4. Allocarya. 769.

1. Allocarya scopulorum Greene.
Nebraska according to Britton's Manual.

5. Cryptanthe. 769.

Nutlets unlike, 3 muricate and 1 smooth and shining. **1. C. crassisepala.**

Nutlets alike, all smooth and shining. **2. C. fendleri.**

1. Cryptanthe crassisepala (T. & G.) Greene.
In dry soil in the northwestern part of the state. Belmont; Deuel County; Hat Creek Basin; Thedford.

2. Cryptanthe fendleri (A. Gray.) Greene.
On high dry plains and in the foot-hills and bad-lands, in the northwestern part of the state. Banner County; Harrison; Hat Creek Basin; Sheridan County; Thedford.

6. Oreocarya. 770.

Corolla tube about equal to the calyx lobes, not exserted.
Nutlets smooth, polished, brown. **1. O. suffruticosa.**
Nutlets rough, tubercled or wrinkled.
Inflorescense a broad, open, round-topped thyrsus; its branches usually again branched.
Plants light yellowish-green, nutlets winged, regularly wrinkled. **2. O. hispidissima.**
Plants dark green; nutlets merely acute angled, irregularly wrinkled. **3. O. thyrsiflora.**
Inflorescense a narrow or spike-like thyrsus, if more open the branches simple.
Plants rough-hairy, over 1.5 dm. high; corolla 6-10 mm. broad. **4. O. glomerata.**
Plants silvery appressed-pubescent; less than 1.5 dm. high; corolla 4-6 mm. high. **5. O. sericea.**
Corolla tube much longer than the calyx lobes, long exserted. **6. O. fulvocanescens.**

1. Oreocarya suffruticosa (Torr.) Greene.
Common in dry soil in the western part of the state. Banner County; Belmont; Box Butte County; Deuel County; Hat Creek Basin; Plummer Ford; Sioux County.

2. Oreocarya hispidissima (Torr.) Gray.
Nebraska according to Rydberg's Flora of Colorado.

3. Oreocarya thyrsiflora Greene.
On sandy hillsides in western Nebraska, according to Rydberg's Flora of Colorado.

4. Oreocarya glomerata (Pursh.) Greene.
A xerophyte of the table-lands and foot-hills of the western part of the state. Belmont; Deuel County; Scotts Bluff County; War Bonnet Canon.

6. Oreocarya fulvocanescens (A. Grey.) Greene.
In dry soil in the western part of the state. Alliance; Deuel County; Kimball County.

6. Oreocarya fulvocanescens (A. Gray.) Greene.
In canons in the Hat Creek Basin. War Bonnet Canon.

7. Mertensia. 771.

Flowers about 2.5 cm. long, corolla limb barely 5-lobed. **1. M. virginica.**
Flowers less than 1.5 cm. long, corolla manifestly 5-lobed.
Pedicels distinctly hirsute. **2. M. paniculata.**
Pedicels glabrous or glandular.
Upper surface of the leaves short-pubescent. **3. M. lanceolata.**
Upper surface of the leaves not hairy. **4. M. linearis.**

1. Mertensia virginica (L.) DC.
Rare in shady woods. Culbertson.
2. Mertensia paniculata (Ait.) Don.
Reported from Sheridan County.
3. Mertensia lanceolata DC.
Woods in War Bonnet Canon.
4. Mertensia linearis Greene.
Nebraska according Rydberg's Flora of Colorado.

8. Lithospermum. 773.

Corolla lobes entire, the tube not more than twice as long as the calyx.
Flowers white, 6 mm. long, nutlets wrinkled or pitted, 2 mm. long. **1. L. arvense.**
Flowers yellow, 1 cm. or more long, nutlets smooth, white, 4 mm. long.
Flowers peduncled, corolla tube bearded at the base inside, calyx 3-4 times as long as the nutlets. **2. L. gmelini.**
Flowers sessile, corolla tube not bearded at the base inside, calyx twice as long as the nutlets. **3. L. canescens.**
Corolla lobes erose-dentate, the tube 2-4 times as long as the calyx. **4. L. linearifolia.**

1. Lithospermum arvense L.
Sparingly introduced, mostly in the eastern part of the state. Lincoln; Long Pine; St. Paul.
2. Lithospermum gmelini (Michx.) A. S. Hitchcock.
Common in prairies over most of the state. Anselmo; Antelope County; Fremont; Grand Island; Sheridan County; Thedford; Weigand.
3. Lithospermum canescens (Michx.) Lehm.
Low prairies in the eastern part of the state. Emerson; Lincoln; Plainview; Walton; Weeping Water.
4. Lithospermum linearifolium Goldie.
Lithospermum angustifolium Michx.
Common on plains and low prairies all over the state. Anselmo; Box Butte County; Fairbury; Lincoln; Perkins County; Pine Ridge; Thedford.

9. Onosmodium. 774.

Plants 4-6 dm. tall; leaves 4-8 cm. long, less than 1.8 cm. wide, nutlets not constricted at the base. **1. O. occidentale.**
Plants 10-12 dm. tall; leaves 8-10 cm. long, over 1.8 cm. wide, nutlets with a neck or constriction at the base. **2. O. hispidissimum.**

1. Onosmodium occidentale Mackenzie.
Common on prairies over most of the state. Beatrice; Broken Bow; Emerson; Kearney County; Lincoln; Sheridan County; Thedford.

2. Onosmodium hispidissimum Mackenzie.
In the eastern part of the state (?).

10. Echium. 776.

1. Echium vulgare L.
Introduced but not common. Bazile Mills; Lancaster County; Nehawka; Plainview.

5. SOLANACEAE.

Fruit a berry.
  Calyx inclosing the fruit.
    Calyx inflated and bladder-like in fruit; plant not prickly. **1. Physalis.**
    Calyx not inflated, closely investing the fruit. **2. Solanum.**
  Calyx not inclosing the fruit.
    Herbs. **2. Solanum.**
    Shrubs. **3. Lycium.**
Fruit a large prickly capsule. **4. Datura.**

1. Physalis. 809.

Ground-cherries.

Leaves tapering to the base.
  Base of calyx sunken, berry red or purple.
    Leaves 6-10 cm. long, fruiting calyx 10-angled. **1. P. philidelphica.**
    Leaves 3-6 cm. long, fruiting calyx 5-angled. **5. P. virginiana.**
  Base of calyx not sunken, berry yellow.
    Glabrous, leaves narrowly lanceolate. **2. P. longifolia.**
    Sparingly hirsute, leaves broadly oblanceolate or spatulate. **4. P. lanceolata.**
Leaves rounded or cordate at the base.
  Glabrous or nearly so, fruiting calyx 3-4 cm. long, deeply sunken at the base. **3. P. macrophysa.**
  Densely pubescent.
    Leaves longer than wide.
      Leaves over 5 cm. long, usually cordate. **6. P. heterophylla.**
      Leaves less than 5 cm. long, scarcely cordate. **7. P. comata.**
    Leaves, at least some of them, as broad as long. **8. P. rotundata.**

1. Physalis subglabrata Mackenzie and Bush.
In the southeastern part of the state. Nemaha; St. Paul.

2. Physalis longifolia Nutt.
Common in low meadows throughout the state. Beatrice; Banner County; Deuel County; Kearney; Newcastle; Republican Valley; Springview.

3. Physalis macrophysa Rydb.
Along railroad near Lincoln.

4. Physalis lanceolata Michx.
Common in the western part of the state. Banner County; Crawford; Lincoln; Newark; Pine Ridge; Pishelville; Scotts Bluff County; Scotia; Sioux County; Thedford.
5. Physalis virginiana Mill.
Common in low meadows mostly in the eastern part of the state. Fairbury; Kearney; Grand Island; Lincoln; Nebraska City.
6. Physalis heterophylla Nees.
Common over most of the state, growing in edges of woods, thickets or prairies. Broken Bow; Dismal River; Franklin; Frontier; Kearney; Lincoln; Plummer Ford; Sheridan; Thedford; Weigand.
7. Physalis comata Rydb.
On hillsides in the western part of the state. Burwell; Loup City; Scotts Bluff County.
8. Physalis rotundata Rydb.
In dry soil in the western part of the state. Burwell; Callaway; Franklin; St. Paul.

2. Solanum. 814.

Plants not prickly, annuals .
  Leaves sinuately dentata or entire.
    Leaves glabrous or nearly so; calyx-lobes obtuse. **1. S. nigrum.**
    Leaves decidedly strigose beneath; calyx-lobes abruptly acutish. **2. S. interior.**
  Leaves pinnatifid. **3. S. triflorum.**
Plants very prickly.
  Calyx not enclosing the fruit. **4. S. carolinense.**
  Calyx enclosing the fruit. **5. S. rostratum.**

1. Solanum nigrum L. **Common Night-Shade.**
A common weed all over the state. Dakota County; Fairbury; Lincoln; Mullen; Paddock; Talmage; Republican Valley.
2. Solanum interior Rydb.
On Loup River near Mullen. (Type locality.) Thedford.
3. Solanum triflorum Nutt.
Frequent as a weed throughout the state. Banner County; Kearney; Lincoln; Thedford; West Point.
4. Solanum carolinense L. **Horse Nettle.**
In dry soil and waste places in the eastern part of the state. Lincoln; Omaha; Weeping Water.
5. Solanum rostratum Dunal. **Buffalo Bur.**
On prairies and in waste places throughout the state. Crete; Carns; Deuel County; Fairbury; Kearney; Lincoln; Saline County; Walton.

3. Lycium. 815.

1. Lycium vulgare L. **Matrimony Vine.**
Escapes from or rather persists after cultivation. Beatrice; Callaway; Lincoln; Weeping Water.

4. Datura. 816.

Stems green, flowers white, prickles at base of capsule shorter than those near the top. **1. D. stramonium.**

Stems purple, flowers rarely white, prickles at base of capsule as long as those near the top. **2. D. tatula.**

1. Datura stramonium L. **Jimson Weed.**
Introduced and rather common in the eastern part of the state. Grand Island; Lincoln; Minden; Peru; Tecumseh; Weeping Water.
2. Datura tatula L.
Introduced but not common. Riverton; Thedford; Valentine.

GENTIANALES.

Trees with odd-pinnate leaves. **1. Oleaceae.**
Herbs with simple leaves.
Carpels united into a 1-celled ovary, juice not milky **2. Gentianaceae.**
Carpels 2, separate or nearly so, juice milky.
Without a crown between the corolla and the stamens. **3. Apocynaceae.**
With a 5-lobed or 5-parted crown between the corolla and the stamens. **4. Asclepiadaceae.**

1. OLEACEAE.

Fraxinus. 724.

Wing of the samara not decurrent on the body. **1. F. americana.**
Wing of the samara decurrent on the body for half its length or more. **2. F. campestris.**

1. Fraxinus americana L. **White Ash.**
Along streams in the southeastern part of the state. Nemaha; Sarpy County.
2. Fraxinus campestris Britton. **Field Ash.**
Fraxinus lanceolata Borck.
Common along streams throughout the state. Franklin; Lincoln; Long Pine; Nemaha; Plummer Ford; South Bend.

2. GENTIANACEAE.

Leavese simple, opposite.
Lobes of the corolla 4 times as long as the corolla-tube. **1. Eustoma.**
Lobes of the corolla shorter than the corolla-tube. **2. Gentiana.**
Leaves trifoliate, alternate or basal. **3. Menyanthes.**

1. Eustoma. 731.

1. Eustoma russellianum (L.) Griseb.
In low meadows mostly along the Platte River. Alliance; Kearney; Lavaca; Memphis; Scotts Bluff County.

2. Gentiana. 731.

Corolla closed or nearly so, its lobes obsolete. **2. G. andrewsii.**
Corolla open, its lobes well developed.
Leaves with rough margins, calyx lobes linear-lanceolate, as long as the tube, rough. **1. G. puberula.**

Leaves smooth margined, calyx lobes ovate, some or all shorter than the tube, smooth.
Flowers white tinged with yellow and green, calyx lobes equal, corolla lobes twice as long as the appendages. **3. G. flavida.**
Flowers blue or white, calyx lobes unequal, corolla lobes about three times as long as the appendages. **4. G. rubicaulis.**

1. Gentiana puberula Michx.
On prairies, most common in the eastern part of the state. Crete; Lincoln; Simeon; Utica; Valentine; Weeping Water; Wood Lake.
2. Gentiana andrewsii Griseb.
In low meadows mostly in the sand-hill regions. Ainsworth; Kearney; Neligh; Newark; Plainview; Thedford; Valentine.
3. Gentiana flavida A. Gray.
Rare along the lower Missouri. Nemaha County.
4. Gentiana rubicaulis Schwein.
Prairies in the eastern part of the state. Nehawka.

3. Menyanthes. 726.

1. Menyanthes trifoliate L.
In marshes, not common. Kennedy; Simeon.

3. APOCYNACEAE.

Apocynum. 738.

Calyx less than half as long as the corolla-tube, flowers over 5 mm. long. **1. A. androsaemifolium**
Calyx about as long as the corolla-tube, flowers less than 5 mm. long.
Leaves narrowed at the base, petioled. **2. A. cannibinum.**
Leaves of the main stem truncate or subcordate at the base, subsessile. **3. A. hypericifólium.**

1. Apocynum androsaemifolium L.
In the northwestern part of the state. Belmont; Harrison; Weeping Water.
2. Apocynum cannibinum L.
Common throughout the state. Belmont; Cherry County; Dixon County; Kearney County; Lincoln; Nattick; Red Cloud; Talmage; Wymore.
3. Apocynum cannibinum hypericifolium (Ait.) Gray.
Apocynum hypericifolium Ait.
Common over the whole state. Grand Island; Lincoln; Riverton.

4. ASCLEPIADACEAE.

Erect or decumbent herbs, corona segments terminating in concave hoods.
Corona with an incurved horn in the cavity of each hood. **1. Asclepias.**

Corona without horns in the hoods.
Cavity of the hood divided by a crest-like partition, corolla lobes spreading. **2. Asclepiadora.**
Cavity of the hood not divided by a crest-like partition, corolla

lobes reflexed. **3. Acerates.**
Climbing vines, corona of flat bodies terminating in 2-cleft awns. **4. Gonolobus.**

1. Asclepias. 740.

Leaves not linear, lanceolate to nearly orbicular.
Leaves mostly alternate, sap scarcely milky. **1. A. tuberosa.**
Leaves opposite.
Flowers bright red or purple.
Flowers large, about 1.5 cm. long, hoods 6 mm. long, leaves 3.5 cm. or more wide. **2. A. purpurascens.**
Flowers smaller. hoods, 2–3 mm. long. leaves less than 3.5 mm. wide. **3. A. incarnata.**
Flowers greenish, yellowish, white or merely tinged with purple.
Leaves narrowed or acute at the apex.
Glabrous or nearly so.
Corolla segments 10 mm. long or more, hoods longer than the incurved horn. **4. A. sullivantii.**
Corolla segments less than 10 mm. long, hoods much shorter than the incurved horn. **6. A. obtusifolia.**
Canescent or tomentose at least on the lower surface of the leaves.
Corolla segments 4–8 mm. long, hoods less than 1 cm. long.
Leaves 10–23 cm. long. **7. A. syriaca.**
Leaves 5–8 cm. long. **10. A. ovalifolia.**
Corolla segments 8–12 cm. long, hoods 1 cm. or more long. **8. A. speciosa.**
Leaves not narrowed but truncate or emarginate at the apex.
Minutely puberulent or glabrous when old. **5. A. latifolia.**
Densely tomentose-canescent all over. **9. A. arenaria.**
Leaves linear.
Leaves verticilate, causule glabrous 5–7 cm. long. **11. A. verticillata.**
Leaves scattered, capsule puberulent 3–5 cm. long. **12. A. pumila.**

1. Asclepias tuberosa L. **Butterfly Weed, Pleurisy Root.**
On bluffs and prairies in the eastern part of the state. Crete; Dakota County; Douglas County; Fairbury; Lincoln; Wahoo; Wymore.

2. Asclepias purpurascens L.
Reported from Weeping Water.

3. Asclepias incarnata L. **Swamp Milkweed.**
In meadows and swampy places over most of the state. Cherry County; Haigler; Lancaster County; Long Pine; Mullen; Ponca River; Simeon.

4. Asclepias sullivantii Engelm. **Sullivants Milkweed.**
In low prairies and meadows in the southeastern portion of the state. Lincoln; Talmage; Weeping Water; Wood River.

5. Asclepias latifolia (Torr.) Raf.
In dry places in the southwestern part of the state. Haigler.

6. Asclepias amplexicaulis J. E. Smith.
Asclepias obtusifolia Michx.
Wooded bluffs and fields in the southwestern part of the state. Weeping Water.

7. Asclepias syriaca L. **Common Milkweed.**
A common weed in fields and prairies all over the state. Ainsworth; Anselmo; Crete; Lincoln; Peru; St. Paul; Tecumseh; Weeping Water; Wymore.

8. Asclepias speciosa Torr. **Showy Milkweed.**
Fairly common in prairies especially in the western part of the state. Callaway; Deuel County; Holdrege; Lincoln; Simeon.

9. Asclepias arenaria Torr.
Common in dry soil in the sand-hills and foot-hills. Cheyenne County; Long Pine; Minden; Plummer Ford; Riverton; Valentine.

10. Asclepias ovalifolia Dec.
Reported from Weeping Water.

11. Asclepias verticillata L.
Common in dry prairies all over the state. Brock; Cherry County; Fairbury; Indianola; Laurel; Lincoln; Niobrara; O'Neill.

12. Asclepias pumila (A. Gray.) Vail.
Common in dry prairies, most abundant in the western part of the state. Anselmo; Belmont; Box Butte County; Haigler; Kearney; McCook; Ponca River; Ft. Niobrara; Thedford.

2. Asclepiadora. 745.

1. Asclepiadora viridis (Walt.) A. Gray.
In the southwestern part of the state, along the Republican River. Red Cloud.

3. Acerates. 745.

Glabrous or puberulent, umbels usually several.
  Umbels sessile or subsessile.
    Hoods entire at the apex.
      Leaves oval, oblong or ovate, over 1 cm. wide. **1. A. viridiflora.**
      Leaves lanceolate or linear, less than 1 cm. wide.
        Leaves lanceolate, ½–2 mm. wide. **1a. A. vir.ivesii.**
        Leaves linear, ste mlow, umbel often solitary. **1b. A. vir-linearis.**
    Hoods 3-toothed at the apex. **2. A. vir-linearis.**
  Umbels distinctly peduncled.
    Stems puberulent, leaves 3–13 mm. wide. **3. A. floridana.**
    Stems glabrous, leaves 1–5 mm. wide. **4. A. auriculata.**
Hirsute all over; umbel terminal, solitary. **5. A. lanuginosa.**

1. Acerates viridiflora (Raf.) aton.
Common in dry prairies throughout the state. Banner County; Broken Bow; Deuel County; Lincoln; St. James; Crete; Saunders County; Valentine.

1a. Acerates viridiflora invesii Britton.
Acerates viridiflora lanceolata (Ives.) Gray.
Common throughout the state. Cushman; Lincoln; Norway; Plummer Ford; St. James; Wahoo.

1b. Acerates viridiflora linearis A. Gray.
Cherry County; Norway; St. James.

2. Acerates angustifolia (Nutt.) Dec.
Common in dry soil all over the state. Cherry County; Cowles; Emerald; Kearney; Lincoln; Plummer Ford; St. James; Sheridan County.
3. Acerates floridana (Lam.) Hitchc.
In dry soil throughout the state. Haigler; Hastings; Lincoln; Saline County.
4. Acerates auriculata Engelm.
In dry soil in the western part of the state. Banner County; Deuel County; Lewellen; Minden; Valentine.
5. Acerates lanuginosa (Nutt.) Dec.
Occurs over most of the state, though not abundant. Crete; Clearwater; Lincoln; Minden; Ponca; Thedford.

4. Gonolobus. 746.

1. Gonolobus laevis Michx. **Sand Vine.**
Rare in the southeastern corner of the state. Nemaha; Rulo.

SCROPHULARIALES.

Flowers regular, fertile stamens 5. **(Verbascum.)** **1. Scrophulariaceae.**
Flowers irregular, fertile stamens 2 to 4.
  Leaves green, plant not parasitic.
    Plants with normal aerial leaves.
      Placentae axile, ovary 1 or 2-celled, capsule not long-beaked.
        Capsule not elastically dehiscent, calyx lobes if filiform much less than 2 cm. long. **1. Scrophulariaceae.**
        Capsule elastically dehiscent, calyx segments, in our species. filiform, 2–2.5 cm. long. **5. Acanthaceae.**
      Placentae parietal, ovary 1-celled, capsule with 2 curved beaks longer than the body. **2. Martyniaceae.**
    Plants with floating, finely dissected, bladder-bearing leaves. **4. Lentibulariaceae.**
  Leaves not green. scaly, plants parasitic. **3. Orobanchaceae.**

1. SCORPHULARIACEAE.

Fertile stemens 5, corolla regular, rotate. **1. Verbascum.**
Fertile stamens 4 or 2, the fifth if present sterile.
  Corolla spurred at the base. **2. Linaria.**
  Corolla not spurred at the base.
    Anther bearing stamens 2 or if four the capsule flattened and emarginate at the apex.
      Capsule terete, pointed.
        Flowers solitary in the axils.
          Flowers yellow or whitish, peduncles with 2 bracts at the summit. **8. Gratiola.**
          Flowers purplish, peduncles bractless. **7. Ilysanthes.**
        Flowers in dense terminal spikes. **12. Leptandra.**
      Capsule flattened, obcordate or emarginate at the apex.
        Corolla 2-lobed or wanting, flowers in dense terminal spikes. **10 Besseya.**

Corolla 4–5 lobed, flowers axillary or in axillary racemes. **11. Veronica.**
Anther bearing stamens 4, capsule never flattened or emarginate.
Stamens 5, but 1 sterile.
Sterile stamen a mere scale adnate to the corolla. **3. Scrophularia.**
Sterile stamen as long or nearly as long as the others. **4. Pentstemon.**
Stamens 4, all anther bearing.
Corolla regular or slightly 2-lipped.
Flowers solitary on scape-like peduncles. **9. Limosella.**
Flowers axillary, or in terminal, bracted racemes.
Stamens nearly equal, corolla tube short. **13. Afzelia.**
Stamens very unequal, corolla tube several times as long as the calyx. **14. Gerardia.**
Corolla distinctly 2-lipped.
Leaves entire or serrate, never pinnately lobed.
Leaves opposite; flowers axillary, mostly solitary.
Calyx tube longer than the teeth, distinctly angled. **5. Mimulus.**
Calyx parted, the tube much shorter than the segments, not angled. **6. Monniera.**
Leaves alternate, flowers spicate.
Upper lip of the corolla much longer than the lower. **15. Castilleya.**
Upper lip of the corolla shorter than the lower. **16. Orthocarpus.**
Leaves pinnately lobed or parted. **17. Pedicularis.**

1. Verbascum. 819.

1. Verbascum thapsus L. **Mullen.**
Introduced in the eastern part of the state, but not common. Brunswick; Holdrege; Lincoln; Oreopolis; Peru; Scotia.

2. Linaria. 821.

Flowers yellow, 2.5–3 cm. long. **1. L. linaria.**
Flowers white or blue, 6–8 mm. long. **2. L. canadensis.**

1. Linaria linaria (L) Karst. **Butter-and-Eggs, Yellow Toad-Flax.**
Linaria vulgaris Hill.
Introduced and common locally. Brunswick; Ewing; Lincoln; Minden; Red Cloud.

2. Linaria canadensis L. **Blue Toad-Flax.**
Reported only from Ewing.

3. Scrophularia. 822.

Corolla dull outwide; sterile stamen deep purple. **1. S. marylandica.**
Corolla shining outside; sterile stamen greenish yellow. **2. S. leporella.**

1. Scrophularia marylandica L.
In the eastern part of the state, not common. Weeping Water.

2. Scrophularia leporella Bickn.
Scrophularia occidentale (Rydb.) Bickn.
Belmont; Red Cloud; Valentine.

4. Pentstemon. 823.

Flowers rarely over 3 cm. long.
Leaves serrate or the stems pubescent or purerulent.
Corolla white, 1.5–2 cm. long. **2. P. albidus.**
Corolla red or purple, 2–2.5 cm. long.
Leaves entire or ripand. **1. P. cristatus.**
Leaves serrate. **3. P. gracilis.**
Leaves entire, whole plant glabrous, often glaucous.
Bracts lanceolate or the lower broader.
Leaves lanceolate or the lower broader.
Flowers 2 cm. long or less. **6. P. acuminatus.**
Flowers 2.5 cm. long or more. **7. P. glaber.**
Leaves all linear or linear-lanceilate. **8. P. angustifolius.**
Bracts ovate, acuminate, large. **9. P. haydeni.**
Flowers 5 cm. long.
Leaves dentate. **4. P. cobaea.**
Leaves entire. **5. P. grandiflorus.**

1. Pentstemon cristatus Nutt.
In prairies in the western part of the state. Pine Ridge.

2. Pentstemon albidus Nutt.
On high prairies and sand-hills mostly in the western part of the state. Antelope County; Anselmo; Box Butte County; Kearney County; Ft. Robinson; St. James; Thedford; Valentine.

3. Pentstemon gracilis Nutt.
In wet meadows, often near streams or pools. Cherry County; Deuel County; Pine Ridge; Sioux County; War Bonnet Canon.

4. Pentstemon cobaea Nutt.
In dry prairies in the eastern part of the state. Crete; Fairbury; Gage County; Lancaster County.

5. Pentstemon grandiflorus Nutt.
In dry sandy places over most of the state. Anselmo; Banner County; Belmont; Cass County; Fairbury; Grand Island; Kearney County; Lincoln; Weeping Water; Valentine.

6. Pentstemon acuminatus Dougl.
In dry soil mostly in the western part of the state. Antelope County.

7. Pentstemon glaber Pursh.
In moist sandy soil, mostly in the western part of the state. Alliance; Banner County; Belmont; Harrison.

8. Pentstemon angustifolius Pursh.
In dry soil in the northwestern part of the state. Antelope County; Box Butte County; Mullen; Pine Ridge; Ft. Robinson; Thedford; Valentine.

9. Pentstemon haydeni S. Wats.
In the sand-hills, in the edge of "blow-outs." Thomas County.

5. Mimulus. 827.

Flowers violet-purple, rarely white, leaves lanceolate. 1. M. ringens.
Flowers yellow, leaves orbicular or nearly so. 2. M. jamesii.

1. Mimulus ringens L. Monkey-Flower.
Banks of streams in the eastern part of the state. Foster; Grand Island; Lincoln; Red Bird Creek; Wahoo; Walton; Valentine.

2. Mimulus jamesii Torr. & Gray. Yellow Monkey-Flower.
Common in wet places mostly along the banks of streams throughout the state. Bellevue; Buffalo County; Chelsea; Haigler; New Helena; Niobrara; Scotts Bluff; Thedford; Valentine.

6. Monniera. 828.

1. Monniera rotundifolia Michx. Water Hyssop.
Bacopa rotundifolia (Michx.) Wettst.
In edges of ponds and streams over most of the state. Cherry County; Fairmont; Loncoln; Mead; Minden; Red Cloud.

7. Ilysanthes. 830.

1. Ilysanthes dubia (L.) Barnhart. False Pimpernel.
In wet places in the eastern part of the state. Guide Rock; Lincoln; Pishelville; Wahoo.

8. Gratiola. 829.

1. Gratiola virginiana L.
In wet places over most of the state. Cherry County; Ewing; Kennedy.

9. Limosella. 831.

1. Limosella aquatica L.
In wet places along streams. Deuel County.

10. Besseya. 831.

1. Besseya gymnocarpa (A. Nels.) Rydb.
Synthеris rubra (Hook.) Benth.
In dry soil in the western part of the state. Ft. Robinson.

11. Veronica. 832.

Flowers in axillary racemes.
Leaves mostly sessile, serrulate or entire. 1. V. anagalis.
Leaves all petioled, sharply serrate. 2. V. americana.
Flowers in terminal racemes or solitary in the axils.
Flower and pedicel usually longer than the bract. 3. V. serpyllifolia.
Flower and pedicel usually shorter than the leaf-like bract. 4. V. xalapensis.

1. Veronica anagalis-aquatica L. Water Speedwell.
In wet places along streams and ditches. Grand Rapids; Kearney; Newark.

2. Veronica americana Schwein. **American Speedwell.**
Common in wet places along streams in the sand-hills. Banner County; Belmont; Chelsea; Dismal River; Hat Creek Basin; Thedford; Valentine.

3. Veronica serpyllifolia L.
Red Cloud.

4. Veronica xalapensis H. B. K. **Purslane Speedwell.**
In cultivated soil all over the state. Box Butte County; Lincoln; Minden; Norway; Thedford.

12. Leptandra. 834.

1. Leptandra virginica (L.) Nutt.
In moist woods and meadows in the southeastern part of the state. Nemaha; Peru; Richardson County.

13. Afzelia. 835.

1. Afzelia macrophylla (Nutt.) Kuntze.
Seymeria macrophylla Nutt.
Shady banks in the southeastern part of the state. Nehawka; Nemaha; Weeping Water.

14. Gerardia. 837.

Leaves linear, flowers distinctly pediceled.
Pedicels not much longer than the calyx, corolla 18–30 mm. long. **1. G. aspera.**
Pedicels about as long as the flowers, corolla 1–1.5 cm. long. **2. G. besseyana.**
Leaves lanceolate, flowers sessile. **3. G. auriculata.**

1. Gerardia aspera Dougl.
In meadows and prairies, mostly in the eastern part of the state. Bassett; Brown County; Fairbury; Grand Island; Lincoln; Seward County; Wahoo; Kennedy.

2. Gerardia besseyana Britton.
Gerardia tenuifolia macropylla Benth.
In prairies over most of the state. Banner County; Carns; Grand Island; Greeley; Kennedy; Minden; Plainview; Valentine.

3. Gerardia auriculata Michx.
Reported from the northeastern county of Kansas.

15. Castilleya. 839.

1. Castilleya sessiliflora Pursh.
On prairies and hillsides over most of the state. Banner County; Callaway; Deuel County; Norway; Peru; Ponca; Scotia; Thedford; Weeping Water.

16. Orthocarpus. 840.

1. Orthocarpus luteus Nutt.
In prairies in the northwestern part of the state. Belmont; Kimball County; Sioux County; Rushville.

17. Pedicularis. 842.

Upper lip of the corolla short beaked, capsule scarcely longer than the calyx. **1. P. lanceolata.**
Upper lip of the corolla not beaked, 2-toothed near the apex, capsule 3 times as long as the calyx. **2. P. canadensis.**

1. Pedicularis lanceolata Michx.
In wet soil. Bellevue; Boelus; Burwell.
2. Pedicularis canadensis L.
In woods in the southeastern part of the state. Franklin; Lavaca; Lincoln; Richardson County.

2. MARTYNIACEAE.

Martynia. 852.

1. Martynia louisiana Mill.
In the Republican valley. Franklin; Red Cloud.

3. OROBANCHACEAE.

Flowers on peduncles 25 mm. or more long, bractless. **1. Thalesia.**
Flowers on short peduncles or sessile, bracted. **2. Orobanche.**

1. Thalesia. 849.

Stems very short, mostly subteranian, bearing 1–4 flowers on scape-like peduncles, 0.5–2 cm. tall. **1. T. uniflora.**
Stems erect, 0.5–1 dm. high, 3–15 flowered, peduncles 2–8 cm. long. **2. T. fasciculata.**

1. Thalesia uniflora (L.) Britton.
In prairies where it is parasitic on other plants, not common. Lincoln; Oakdale.
2. Thalesia fasciculata (Nutt.) Britton.
Parasitic on Artemesia roots. Alliance; Kennedy; Minden.
2a. Thalesia fasciculata lutea (Parry.) Britton.
Valentine.

2. Orobanche. 849.

1. Orobanche ludoviciana Nutt.
In the foot-hill regions of the western part of the state. Atkinson; Alliance; Banner County; Hat Creek Basin; Kennedy; Long Pine; Minden.

4. LENTIBULARIACEAE.

Utricularia. 845.

Corolla 12 mm. broad or more, spur nearly as long as the lower lip. **1. U. vulgaris.**
Corolla 4–6 mm. broad, spur short or nearly wanting. **2. U. minor.**

1. Utricularia vulgaris L. **Greater Bladder-Wort.**
Rather common in streams and ponds over most of the state. Cherry County; Lincoln; Minden; Thedford; Weigand; Whitman.

2. Utricularia minor L. **Little Bladder-Wort.**
Thedford.

5. ACANTHACEAE.

Ruellia. 854.

1. Ruellia ciliosa Pursh.
In dry soil in the southeastern part of the state. Blue Springs; Lincoln; Nemaha.

LAMIALES.

Fruit 1-seeded; fruiting calyx reflexed. **1. Phrymaceae.**
Fruit 2–4-seeded; calyx not reflexed.
  Style apical; ovary not 4-lobed; flowers often nearly regular. **2. Verbenaceae.**
  Style arising between the lobes of the ovary; flowers mostly irregular. **3. Labiatae.**

1. PHRYMACEAE.

Phryma. 856.

1. Phryma leptostachya L. **Lopseed.**
In woods and in thickets throughout the state. Anselmo; Aten; Bellevue; Belmont; Crete; Lincoln; Mullen; Nebraska City; Valentine.

2. VERBENACEAE.

Flowers in elongated spikes, corolla 5-lobed regular or nearly so. **1. Verbena.**
Flowers in heads or short spikes, corolla 4-lobed, 2 lipped. **2. Lippia.**

1. Verbena. 777.

Bracts short, little if any longer than the calyx.
  Leaves serrate, bracts mostly shorter than the calyx, flowers 4–10 mm. long.
    Fruits scattered, corolla usually white, 2 mm. broad. **1. V. urticifolia.**
    Fruits imbricated, corolla blue. 3 mm. or more broad.
      Plants slightly rough-pubescent, flowers 4–6 mm. long.
        Spikes numerous, stems 0.5–2 m. tall. **2. V. hastata.**
        Spikes usually solitary, stems 2–6 dm. high. **3. V. angustifolia.**
      Plants densely soft-pubescent, flowers 8–10 mm. long. **4. V. stricta.**
  Leaves bipinnately parted, bracts longer than the calyx. **6. V. bipinnatifida.**
Bracts longer than the flowers, stems often prostrate. **5. V. bracteosa.**

1. Verbena urticifolia L. **White or Nettle Leaved Vervain.**
In woods and meadows in the eastern part of the state. Callaway; Franklin; Lincoln; Nebraska City; Pishelville; Valentine; Wymore.

2. Verbena hastata L.
Common in meadows and low prairies especially in the eastern part of the state. Banner County; Cherry County; Lincoln; Mullen; Nebraska City; Niobrara; Wymore.

3. Verbena angustifolia Michx.
Lincoln.

4. Verbena stricta Vent. **Common Vervain.**
Common in dry soil all over the state. Aten; Benkleman; Cherry County; Fairbury; Lincoln; Nebraska City; Red Cloud; Thedford; Walton; Wahoo.

5. Verbena bracteosa Michx.
A common weed in pastures and waste places over the whole state. Box Butte County; Mead; Nebraska City; St. James; Thedford; Lincoln; Valentine.

6. Verbena bipinnatifida Nutt.
In dry prairies in the western part of the state. Arapahoe; Indianola; Spencer; Whitney.

2. Lippia. 778.

Leaves lanceolate, serrate to below the middle. **1. L. lanceolata.**
Leaves spatulate, 2-6 toothed above the middle. **2. L. cuneifolia.**

1. Lippia lanceolata Michx.
In wet meadows in the eastern part of the state. Grand Island; Nemaha; Richardson County.

2. Lippia cuenifolia (Torr.) Steud.
In dry places in the western part of the state. Franklin; Kearney County; Phelps County; Republican.

3. LABIATAE. (LAMIACEAE.)

Anther bearing stamens 4.
Calyx with a protuberance on the upper side. **3. Scutellaria.**
Calyx without a protuberance on the upper side.
Flower in terminal spikes or capitate clusters.
Flowers in terminal spikes.
Corolla distinctly 2-lipped, usually 5-lobed.
Corolla split nearly to the base on the upper side. **1. Teucrium.**
Corolla not split nearly to the base on the upper side.
Calyx nearly equally 5-toothed, not 2-lipped.
Flowers in verticillate clusters in the axils of the bracts.
Upper pair of stamens longer than the lower.
Plants glabrous or slightly pubescent. **5. Agastache.**
Plants densely tomentose-canescent. **6. Nepeta.**
Lower pair of stamens as long or longer than the upper. **13. Stachys.**
Flowers solitary in the axils of the bracts. **10. Physostegia.**

Calyx distinctly 2-lipped or the upper tooth larger than the others.
Bracts pectinate with awn-pointed teeth. **8. Drachocephalum.**
Bracts merely ciliate, broadly ovate-orbicular. **9. Prunella.**
Corolla 4-lobed, nearly regular. **20. Mentha.**
Flowers in dense capitate clusters. **18. Koellia.**
Flowers in clusters in the axils of the leaves, not spicate.
Leaves entire. **2. Isanthus.**
Leaves not entire.
Calyx teeth usually 10. **4. Marubium.**
Calyx teeth 5.
Corolla distinctly 2-lipped.
Leaves much longer than broad. **11. Leonurus.**
Leaves about as broad as long, in our species.
Upper pair of stamens longer than the lower. **7. Glecoma.**
Upper pair of stamens shorter than the lower. **12. Lamium.**
Corolla nearly regular, leaves lanceolate. **20. Mentha.**

Anther bearing stamens 2.
Flowers in terminal spikes or heads.
Flowers in terminal spikes, composed of few-flowered clusters. **14. Salvia.**
Flowers in dense bracted glomerules, or these forming interrupted spikes.
Calyx equally 5-toothed. **15. Monarda.**
Calyx 2-lipped. **16. Blephilia.**
Flowers clustered in the axils of the leaves, not spicate.
Calyx 13 nerved, 2-lipped. **17. Hedeoma.**
Calyx and corolla both nearly regular, 4–5 lobed. **19. Lycopus.**

1. Teucrium. 781.

Calyx canescent, at least 2 of the upper lobes obtuse, corolla 15–20 mm. long. **1. T. canadense.**
Calyx villous, some of the hairs glandular, upper calyx lobes acute, corolla 8–12 mm. long. **2. T. occidentale.**

1. Teucrium canadense L. **Amreican Germander, Wood Sage.**
In low ground in the eastern part of the state. Knox County; Lincoln; Nebraska City; Red Cloud; Saunders County.

2. Teucrium occidentale A. Gray. **Hairy Germander.**
Common in low moist ground, in the western part of the state. Alliance; Endicott; Grand Rapids; Hooker County; Mead; Scotia; Scotts Bluff County; Walton; Valentine.

2. Isanthus. 782.

1. Isanthus brachiatus (L.) B. S. P.
Along streams in the southeastern part of the state. Cass County.

3. Scutellaria. 783.

Flowers not over 10 mm. long.
Leaves petioled, at least the lower coarsely serrate. **1. S. lateriflora.**
Leaves sessile, entire. **3. S. parvula.**
Flowers 12 mm. long or more long.
Leaves entire, flowers 12–16 mm. long. **2. S. recinosa.**
Leaves, at least the lower dentate, flowers 25 mm. long. **4. S. galericulata.**

1. Scutellaria lateriflora L.
In wet, shady places throughout the state. Crete; Guide Rock; Kearney; Lincoln; Nebraska City; Ponca River; Wahoo; Walton; Valentine.

2. Scutellaria resinosa Torr.
On dry plains in the western part of the state. Dawson County.

3. Scutellaria parvula Michx.
In moist soil in the southeastern part of the state. Emerson; Lincoln; Nebraska City; Swedeburg; Walton.

4. Scutellaria galericulata L.
Wet banks and edges of pools in the sand-hill regions. Burwell; Kearney; Paddock; Scotts Bluff County; Whitman.

4. Marubium. 785.

1. Marubium vulgare L. **White Hoarhound.**
Wood River.

5. Agastache. 785.

Leaves green on both sides, stems stout, eastern.
Glabrous, corolla greenish-yellow. **1. A. nepetoides.**
Pubescent, corolla purplish. **2. A. scrophulariaefolia.**
Leaves pale beneath, stems slended, western. **3. A. anethiodora.**

1. Agastache nepetoides (L.) Kuntze.
In woods, mostly along streams in the eastern part of the state. Bellevue; Dakota County; Lincoln; Nebraska City; Wahoo.

2. Agastache scrophulariaefolia (Willd.) Kuntze.
On wooded bluffs of the Missouri, not common. Bellevue; Nebraska City.

3. Agastache anethiodora (Nutt.) Britton.
Agastache foeniculum (Pursh.) Kuntze.
In dry soil in the northwestern part of the state. Sioux County.

6. Nepeta. 786.

1. Nepeta cataria L. **Catnip, Catmint.**
Common in waste places in the eastern part of the state. Ewing; Grand Island; Lincoln; Minden; Nebraska City; Pishelville; Plainview.

7. Glecoma. 787.

1. Glecoma hederacea L.
In the southeastern part of the state. Peru; Red Cloud.

8. Dracocephalum. 787.

1. Dracocephalum moldavicum L.
Bluffs of the Missouri. Meadville; Springview.

9. Prunella. 788.

1. Prunella vulgaris L.
Introduced and rather common in the eastern part of the state. Ainsworth; Albright; Lincoln; Mullen; Nebraska City; Richardson; Thedford.

10. Physostegia. 788.

Corolla 25 mm. long, fruiting calyx 8–10 mm. long. **1. P. virginiana.**
Corolla 12 mm. long, fruiting calyx 4–6 mm. long. **2. P. parviflora.**

1. Physostegia virginiana (L.) Benth.
In woods in the western part of the state. Bellevue; Ewing; Grand Island; Lincoln.
2. Physostegia parviflora Nutt.
In moist soil, not common. Nebraska City; Scotts Bluff.

11. Leonurus. 790.

1. Leonurus cardiaca L.
Woods and meadows along streams in the eastern part of the state. Beatrice; Dixon County; Nebraska City; Grand Island; Loup City.

12. Lamium. 790.

1. Lamium amplexicaule L.
Introduced, but rare. Red Cloud.

13. Stachys. 791.

Leaves sessile or very short petioled, calyx teeth more than half the length of the tube. **1. S. palustris.**
Leaves, at least the lower slender petioled, calyx teeth about half as long as the tube. **2. S. aspera.**

1. Stachys palustris L.
In edges of ponds and in marshy places mostly in the sandhills. Ainsworth; Cherry County; Kearney; Nebraska City; Valentine.
2. Stachys aspera Michx.
In moist soil in the eastern part of the state. Lincoln; Wahoo.

14. Salvia. 794.

Corolla 25 m. long, several times as long as the calyx; upper lip of calyx obtuse, 1–2 mm. long. **1. S. pitcheri.**

Corolla about 8 mm. long, not much longer than the calyx, upper lip of calyx acute, 2-3 mm. long. **2. S. lanceolata.**

1. Salvia pitcheri Torr. **Pitchers Sage.**
Common on prairies in the southeastern part of the state. Crete; Fairbury; Lancaster; Minden; Red Cloud; Wahoo.
2. Salvia lanceolata Willd.
In prairies throughout the state, becoming common as a weed in waste places. Beaver Creek; Frontier; Lincoln; Nebraska City; Red Cloud.

15. Monarda. 795.

Flowers in a solitary, terminal cluster, calyx teeth short, erect.
Leaves pubescent beneath, bracts whitish or purplish. **1. M. fistulosa.**
Leaves canescent beneath, bracts usually green. **2. M. mollis.**
Flowers in a terminal cluster and also in the upper axils; calyx teeth spreading, nearly half as long as the tube. **3. M. pectinata.**

1. Monarda fistulosa L. **Wild Bergamot.**
Common over most of the state. Crete; Long Pine; Valentine.
2. Monarda mollis L.
Monarda scabra Beck.
Common in prairies all over the state. Lincoln; Mullen; Minden; Wahoo.
3. Monarda pectinata
Monarda citriodora Cerv.
In dry prairies in the western part of the state. Belmont; Callaway; Deuel County; Ft. Robinson; Merriman; Thedford.

16. Blephilia. 797.

1. Blephilia hirsuta L.
In woods in the southeastern part of the state. Lincoln.

17. Hedeoma. 797.

Leaves serrate, upper calyx teeth triangular. **1. H. pulegioides.**
Leaves entire, all the calyx teeth subulate.
Calyx teeth all about equal in length. **2. H. hispida.**
Lower calyx teeth much longer than the upper. **3. H. drummondii.**

1. Hedeoma pulegioides (L.) Pers. **American Pennyroyal.**
Dry soil in the southeastern part of the state. Arago; Nebraska City.
2. Hedeoma hidpida Pursh. **Rough Pennyroyal.**
Common in dry soil al over the state. Box Butte County; Broken Bow; Fairmont; Nebraska City; Plainview; Thedford; Walton; Valentine.
3. Hedeoma drummondii Benth.
In dry soil in the western part of the state. Banner County; Belmont; Cheyenne County; Lewellen; Valentine.

18. Koellia. 800.

1. Koellia virginiana (L.) Mac. M.
Pycnanthemum virginianum (L.) Durand & Jackson.
In dry fields and thickets throughout the state. Dismal River; Holt

County; Long Pine; Newark; Oreopolis; Pishelville; Richardson County; Wood River.

19. Lycopus. 803.

Calyx teeth triangular, in fruit shorter than the nutlets, bracts.
Corolla lobes erect, stamens and style included. **1. L. virginicus.**
Corolla lobes spreading, stamens and style exserted. **2. L. uniflorus.**
Calyx teeth subulate. in fruit longer than the nutlets, bracts some of them as long as the calyx.
Leaves incised or pinnatifid. **3. L. americanus.**
Leaves sharply serrate. **4. L. lucidus.**

1. Lycopus virginicus L. **Bugle-Weed.**
Common in wet soil all over the state. Bellevue; Carns; Cody's Lake; Endicott; Lincoln; Nebraska; Thedford.

2. Lycopus uniflorus Michx.
Lycopus communis Bicknell.
In moist soil probably over most of the state. Burwell; Long Pine; Loup City; Red Cloud.

3. Lycopus americanus Muhl. **Water Hoarhound.**
Common in wet soil, frequently growing along the margins of ponds and streams. Banner County; Cherry County; Cody's Lakes; Endicott; Lincoln; Nebraska City; Paddock; Thedford; Valentine.

4. Lycopus lucidus Turcz.
Mostly along sandy banks and margins of pools. Bassett; Burwell; Callaway; Newark; Thedford; Valentine.

20. Mentha. 804.

Flowers in terminal spikes. **1. M. piperita.**
Flowers in axillary clusters. **2. M. canadensis.**

1. Mentha piperita L. **Peppermint.**
Long Pine.

2. Mentha canadensis L. **Wild Mint.**
In wet soil, often forming borders along streams and ponds. Banner County; Cheyenne County; Lincoln; Nebraska City; Paddock; Ft. Robinson; Sioux County; Whitman.

SUBCLASS CALYCIFLORAE.

ROSALES.

Flowers, if in dense globose heads, perfect.
Flowers regular.
Ovary superior, or carpels not united.
Carpels 2-many.
Ovules 1-4 in each carpel, carpels numerous or enclosed in the calyx tube. **1. Rosaceae.**
Ovules numerous in each carpel.
Carpels 4-5, separate or united only at the base. **3. Crassulaceae.**
Carpels 2 or if more united to the top of the ovary. **4. Saxifragaceae.**

Carpel only one.
Fruit an achene or drude. **1. Rosaceae.**
Fruit a legume.
Flowers in heads, petals valvate. **2b. Mimosaceae.**
Flowers not in heads, petals imbricated. **2a. Caesalpinaceae.**
Ovary inferior, carpels united.
Fruit a many seeded berry, shrubs, usually spiny. **4. Saxifragaceae.**
Fruit a pome, trees or shrubs. **1. Rosaceae.**
Flowers irregular.
Stamens distinct.
Trees. **2a. Caesalpinaceae.**
Herbs. **2c. Papillionaceae.**
Stamens united by their filaments. **2c. Papillionaceae.**
Flowers in dense globular heads, monoecious. **5. Platanaceae.**

1. ROSACEAE.

Pistils 1-2 ovuled, generally 1 seeded in fruit, indehiscent.
Pistils distinct from each other and from the receptacular cup.
Pistils and achenes numerous.
Pistils and achenes not enclosed by the receptacle.
Calyx with a whorl of 5 bracts making it appear double.
Styles terminal, flowers mostly yellow.
Styles small, not elongating in fruit, neither plumose nor jointed . **1. Potentilla.**
Styles elongating in fruit, plumose and often jointed. **4. Geum.**
Styles lateral, flowers white.
Plants acaulescent, receptacle fleshy, edible. **3. Fragaria.**
Plants caulescent, receptacle dry. **2. Drymocallis.**
Calyx without bracts, pistils developing into a berry-like aggregate. **5. Rubus.**
Pistils and achenes enclosed by the receptacular cup. **9. Rosa.**
Pistils and achenes 1-4.
Herbs, achenes enclosed in the dry urn-shaped receptacle.
Petals none, sepals petaloid, without prickles; flowers in dense heads or spikes. **7. Sanguisorba.**
Petals yellow, calyx prickly, flowers in racemes. **8. Agrimonia.**
Trees or shrubs, pistil solitary.
Petals none, style persistent, long and plumose, fruit an achene. **6. Cercocarpus.**
Petals present, fruit a drupe. **14. Prunus.**
Pistils united to each other and to the receptacular cup, fruit a pome.
Inner wall of the ripe carpels bony, ovule one in each carpel, or if 2, dissimilar. **12. Crataegus.**
Inner wall of the ripe carpels papery.
Pome 5-6 cm. in diameter, cells 2 seeded, as many as the styles. **11. Malus.**
Pome less than 1 cm. in diameter, cells 1 seeded, twice as many as the styles. **13. Amelanchier.**
Pistils with several ovules, 2-4 seeded dehiscent. **10. Opulaster.**

1. Potentilla. 502.

Flowers terminal, cymose.
  Leaves pinnate.
    Leaves white tomentose especially so beneath.
      Leaves glabrous above, stipules pectinately parted.
        Tomentose, leaflets cleft half way to the midrib, margins not revolute. **1. P. pennsylvanica.**
        Pubescent with strigose hairs, leaflets deeper cleft, margins revolute. Var. strigosa **1a. P. pennsylvanica.**
      Leaves silky above, stipules entire or nearly so. **2. P. hippiana.**
    Leaves not white tomentose. **6. P. paradoxa.**
  Leaves digitate, 3-5 foliate.
    Stamens 10-20.
      Plant erect, flowers 6-12 mm. broad. **3. P. monspeliensis.**
      Plant decumbent or ascending, flowers about 4 mm. broad. **5. P. millegrana.**
    Stamens 5-8. **4. P. pentandra.**
Flowers solitary on axillary peduncles. **7. P. anserina.**

1. Potentilla pennsylvanica L.
Rare in the western part of the state. Deuel County; Kennedy; Saunders County; Thedford.

1a. Potentilla pennsylvanica var. strigosa Pursh.
Common throughout the state. Dismal River; Sheridan County; Thedford.

2. Potentilla hippiana Lehm.
In the northwestern part of the state. Belmont; Ft. Robinson; Harrison.

3. Potentilla monspeliensis L.
Common, probably over most of the state. Belmont; Cass County; Cherry County; Dakota County; Lincoln; Ponca; Walton; Whitman.

4. Potentilla pentandra Engelm.
Probably over most of the state. Aten; Chadron; Cherry County; Lincoln; Ft. Niobrara; Whitman.

5. Potentilla millegrana Engelm.
Potentilla leucocarpa Rydb.
Throughout the state. Lincoln; Louisville; Newark.

7. Potentilla paradoxa Nutt.
Probably occurs over most of the state, but not common. Antelope County; Aten; Broken Bow; Cherry County; Lewellen; Lincoln; Omaha; Sioux County; Wood Lake.

8. Potentilla anserina L.
Argentina anserina (L.) Rydb.
In the northwestern part of the state. Keith County; St. Paul; Scotts Bluff County.
Potentilla bipinnatifida Dougl. and **Potentilla platyloba** Rydb. occur in Nebraska according to Rydberg's Flora of Colorado.

2. Drymocallis. 499.

1. Drymocallis arguta (Pursh.) Rydb.
Potentilla arguta Pursh.
In low prairies and meadows throughout the state. Antelope County;

Aten; Broken Bow; Cherry County; Lincoln; Sioux County; Valentine.

3. Fragaria. 500.

Achenes sunken in pits on the surface of the ovoid receptacle, eastern. **1. F. virginiana.**
Achenes on the smooth surface of the elongated-conic receptacle, western. **2. F. americana.**

1. Fragaria virginiana Duchesne. **Wild Strawberry.**
In low prairies, common in the eastern part of the state. Crete; Chadron; Long Pine; Lincoln; Peru; Weeping Water.

2. Fragaria americana (Porter.) Britton.
Sides of bluffs and canons in the western part of the state. Anselmo; Belmont; Hat Creek Basin; Plummer Ford; Valentine.

4. Geum. 507.

Petals white or cream-colored, scarcely longer than the sepals.
Plant rough pubescent, petals creamy-white. **1. G. virginianum.**
Plant finely pubescent or glabrate, petals white. **2. G. canadense.**
Petals golden-yellow, much exceeding the sepals.
Terminal leaflet of the basal leaves broadly ovate or cuneate, receptacle downy. **3. G. strictum.**
Terminal leaflet of the basal leaves orbicular or cordate, receptacle nearly naked. **4. G. macrophyllum.**

1. Geum virginianum L.
In woods in the southeastern part of the state. Lincoln; Talmage.
2. Geum candense Jacq.
Common in woods throughout the state. Anselmo; Aten; Lincoln; Neligh; Peru; Saltillo; Sioux County; Talmage; Thomas County; Wahoo.
3. Geum strictum Ait.
Meadows in the northwestern part of the state. Belmont; Nattick; Thedford; Valentine.
4. Geum macrophyllum Willd.
Rare in meadows. Nattick.

5. Rubus. 493.

Flowers about 1 cm. broad; fruit falling away from the receptacle at maturity.
Stems bristly, without prickles; fruit red. **1. R. strigosus.**
Stems not bristly, armed with prickles; fruit purple-black. **2. R. occidentalis.**
Flowers mostly 2 cm. broad or mroe; fruits persistent on the fleshy receptacle. **3. R. nigrobaccus.**

1. Rubus strigosus Michx. **Wild Red Raspberry.**
In thickets throughout the state, not common. Anselmo; Lincoln; Peru; Thomas County.

2. Rubus occidentalis L. **Wild Black Raspberry.**
Mostly in thickets and open woods along streams. Newcastle; Peru; Plummer Ford; Red Cloud; Valentine.

3. Rubus nigrobaccus Bailey. **Blackberry.**
Rubus allegheniensis Porter.
Borders of woods in the southeastern part of the state. Lincoln; Nemaha; Talmage.

6. Cercocarpus. 509.

1. Cercocarpus parvifolius H. & A. **Mountain Mahogany.**
Cercocarpus montanus Raf.
On dry hills in the northwestern part of the state. Banner County; Scotts Bluff County.

7. Sanguisorba. 512.

1. Sanguisorba sanguisorba (L.) Britton.
Escapes from cultivation. Lincoln.

8. Agrimonia. 511.

Larger leaflets 5-7.
  Stem hirsute. **1. A. hirsuta.**
  Stems glabrous or nearly so. **2. A. striata.**
Larger leaflets 9-19. **3. A. parvilflora.**

1. Agrimonia hirsuta (Muhl.) Bicknell.
Agrimonia gryposepala Wallr.
Boelus; Grand Island; Valentine.

2. Agrimonia striata Michx.
In woods throughout the state. Banner County; Bellevue; Belmont; Dukeville; Hooker County; Indianola; Lincoln; Long Pine; Sioux County.

3. Agrimonia parvilflora Soland.
In the southeastern part of the state. Endicott; Fairbury.

9. Rosa. 512.

Styles distinct; leaflets usually 5-9.
  Infrastipular spines wanting; stems densely armed with prickles.
    Flowers usually several, about 5 cm. broad. **1. R. arkansana.**
    Flower solitary, terminal, 6-7 cm. broad. **2. R. engelmannii.**
  Infrastipular spines present; stems less densely armed or naked above.
    Petioles not glandular; stipules merely glandular toothed or entire. **3. R. maximiliani.**
    Petioles and stipules densely glandular. **4. R. fendleri.**
Styles united; stems climbing; leaflets usually 3. **5. R. setigera.**

1. Rosa arkansana Porter.
Rosa pratincola Greene.
Common an prairies throughout the state. Anselmo; Antelope County; Broken Bow; Cherry County; Frontier County; Laurel; Lincoln; Ponca.

2. Rosa engelmannii S. Wats.
Rosa sayi Schwein.
Rare in the northwestern part of the state. Long Pine; Sowbelly Canon.

3. Rosa miximiliani Nees.
Rosa woodsii Lindl.
Prairies in the northwestern part of the state. Red Cloud; Belmont; Hat Creek Basin; Scotts Bluff County; Valentine; Wood Lake.

4. Rosa fendleri Crepin.
In the northwestern part of the state. Belmont; Cherry County; Cheyenne County; Indianola; Deuel County; Sheridan County; Valentine.

5. Rosa setigera Michx.
Woods and thickets in the southeastern part of the state. Nemaha; Richardson County; Weeping Water.

10. Opulaster. 491.

1. Opulaster opulifolia (L.) Kuntze. **Ninebark.**
In thickets near streams in the northeastern part of the state. Carns; Long Pine.

11. Malus. 516.

1. Malus ioensis (Wood.) Britton. **Western Crab Apple.**
In woods mostly along the Missouri River. Ainsworth; Nemaha; Paddock; Peru.

12. Crataegus. 518.

Leaves with a broad truncate or cordate base, flowers 1.5-3 cm. broad. **1. C. mollis.**
Leaves with a narrow or cuneate base, flowers 10-16 mm. broad.
Leaves glabrous or nearly so beneath. **2. C. occidentalis.**
Leaves pubescent especially along the veins beneath. **3. C. tomentosa.**

1. Crataegus mollis (T. & Gr.) Scheele.
In woods in the southeastern part of the state. Bellevue; Lincoln; Nemaha; Saltillo.

2. Crataegus occidentalis Britton.
River banks in western Nebraska. Custer County; Grand Rapids; Halsey; Kirkwood; Valentine.

3. Crataegus tomentosa L.
In woods along streams in the eastern part of the state. Jamaica; Omaha; Peru.

13. Amelanchier. 517.

Leaves serrate nearly to the base.
Young leaves nearly glabrous, soon becoming completely so, calyx usually glabrous. **1. A. canadensis.**
Young leaves and calyx densely white-tomentose, sometimes becoming nearly glabrous when old. **2. A. botryapium.**
Leaves dentate above the middle only. **3. A. alnifolia.**

1. Amelanchier canadensis (L.) Medic. **June or Service Berry.**
Along streams in the southeastern part of the state. Nemaha; Nebraska City; Peru; South Bend; Wahoo; Weeping Water.

2. Amelanchier botryapium (L. f.) D. C. **Shad-Bush.**
Along streams mostly along the Niobrara and upper Missouri. Grand Island; Johnston; Long Pine; Ft. Niobrara; Ft. Robinson; Valentine.

3. Amelanchier alnifolia Nutt. **Western June-Berry.**
Dry soil in the northwestern part of the state. Banner County; Belmont; Merriman; Simeon; Sioux County; Valentine.

14. Prunus. 523.

Flowers in small few-flowered umbels, appearing with or before the leaves.
  Thorny shrub or small tree, over 1 m. high, fruit red or yellow. **1. P. americana.**
  Thornless shrub 2-5 dm. high, fruit black. **2. P. besseyi.**
Flowers in many-flowered racemes at the ends of leafy branches of the season.
  Shrubs or small trees, leaves with spreading teeth.
    Fruit very astringent, red to nearly black, 8-10 mm. in diameter; eastern. **3 .P. virginiana.**
    Fruits sweet or but slightly stringent, dark-purple to black, 6-8 mm. in diameter; northwestern. **4. P. melanocarpa.**
  Large trres, leaves with incurved teeth; southeastern. **5. P. serotina.**

1. Prunus americana Marsh. **Wild Plum.**
Common all over the state. Dismal River; Lancaster; Peru; Thedford; Valentine; Wahoo.

2. Prunus besseyi Bailey. **Sand Cherry.**
Common in sandy soil in the northern and western parts of the state. Antelope County; Banner County; Cherry County; Deuel County; Hat Creek Basin; Pierce; Sheridan County; Thedford; Weigand.

3. Prunus virginiana L. **Choke-Cherry.**
Along streams in the southeastern part of the state. Crete; Lancaster County; Peru.

4. Prunus melanocarpa (A. Nels.) Rydb. **Western Choke-Cherry.**
Prusus demissa (Nutt.) Walp.
In prairies and dry soil throughout the northern and western parts of the state . Belmont; Hastings; Long Pine; Thedford; Valentine; Wahoo.

5. Prunus serotina Ehrh. **Wild Black Cherry.**
Rare in woods in the southeastern part of the state. Nemaha; Peru; Weeping Water.

2. LEGUMINOSAE.

2a. Subfamily CAESALPINACEAE.

Leaves once or twice pinnate.
  Trees; leaves twice-pinnate.
    Thornless trees, leaflets 5-7 cm. long. **3. Gymnocladus.**
    Usually thorny, leaflets 1-3 cm. long. **2. Gleditsia.**
  Our species herbs, leaves simply pinnate. **1. Cassia.**
Leaves simple, heart-shaped. **4. Cercis.**

1. Cassia. 529.

Leaflets 20-30, stipules persistent. **1. C. chamaecrista.**
Leaflets 12-18, stipules caducous. **2. C. marylandica.**

1. Cassia chamaecrista L. **Partridge Pea.**
Common in eastern Nebraska. Ewing; Guide Rock; Lincoln; Red Cloud; Richardson County; Wahoo.

2. Cassia marylandica L. **Wild Senna.**
Rare in the southeastern part of the state. Guide Rock; Red Cloud.

2. Gleditsia. 530.

1. Gleditsia triacanthos L. **Honey Locust.**
In rich soil in the eastern part of the state. Lancaster County.

3. Gymnocladus. 531.

1. Gymnocladus dioica (L.) Koch **Kentucky Coffee-Tree.**
On alluvial soil in the southeastern part of the state and along the Missouri as far north as Cedar County. Louisville ;Richardson County.

4. Cercis. 529.

1. Cercis candensis L. **Red-Bud, Judas-Tree.**
Common in woods along streams in the southeastern part of the state. Bellevue; Richardson County.

2b. Subfamily MIMOSACEAE.

Stems armed with recurved prickles, legumes prickly, corolla gamopetalous. **2. Morongia.**
Stems and legumes smooth, petals free. **1. Acuan.**

1. Acuan. 527.

1. Acuan illinoensis (Michx.) Kuntze.
Desmanthus illinoensis (Michx.) MacM.
Common in the eastern part of the state. Callaway; Kearney; Lincoln; Niobrara; Newark; Red Cloud.

2. Morongia. 528.

1. Morongia uncinata (Willd.) Britton. **Sensitive-Briar.**
Schrankia uncinata Willd.
Prairies and hillsides in the eastern part of the state. Adams County; Fairbury; Gosper County; Grand Island; Niobrara; Red Cloud; Verdigris.

2c. Subfamily PAPILIONACEAE.

Stamens not united by their filaments.
Leaves pinnate, leaflets 7-25. **1. Sophora.**
Leaves simple or 3-foliate.
Pods 7-10 cm. long, flat, curved; foliage not blackening in drying. **2. Thermopsis.**

Pods 1-5 cm. long, inflated; foliage blackening in drying.
3. Baptisia.

Stamens united by their filaments into one or two groups.
Leaves simple, digitate or odd-pinnate, never tendril-bearing.
Leaves simple, 3-foliate or digitately many-foliate.
Herbs not climbing.
Leaves simple, rarely 3 or 5-foliate in Phaca, and Homalobus.
Leaves lanceolate to oval, anthers of two kinds.
5. Crotolaria.

Leaves linear to nliear-spatulate, usually many times as long as wide.
Peduncles much shorter than the leaves, flowers pink.
14. Phaca.

Peduncles equaling or longer than the leaves, flowers purple.
13. Homalobus.

Leaves 3-foliate, or digitately many-foliate.
Leaves digitately 5-15 foliate.
Pods with several seeds.
4. Lupinus.

Pods 1-seeded.
18. Psoralea.

Leaves 3-foliate.
Pod not a loment; i. e. not breaking into 1-seeded joints when mature.
Flowers solitary on axillary peduncles 18-25 mm. long.
9. Lotus.

Flowers clustered or if solitary sessile.
Leaflets dentate.
Pods not curved or coiled.
Flowers in elongated racemes 5-10 cm. long, pod longer than calyx.
7. Melilotus.

Flowers in heads or dense spikes, pod included in the calyx.
..6. Trifolium.

Pods curved or coiled.
8. Medicago.

Leaflets entire.
Acaulescent or the stems covered with imbricated, scarious stipules.
15. Orophaca.

Caulescent, stems not covered with stipules.
Calyx lobes, or at least some of them shorter than the pods, much exceeded by the corolla.
18. Psoralea.

Calyx lobes in our species twice as long as the pods, nearly as long as the corolla.
26. Lespedesa.

Pod a loment, much constricted between the seeds and breaking into one-seeded joints when mature.
25. Meibomia.

Vines.
Flowers all petaliferous; capitate or solitary.
23. Strophostylus.

Flowers of two kinds, the petaliferous in racemes, the apetalous solitary on creeping branches.
24. Falcata.

Leaves odd-pinnate, 5-many foliate.
Trees.
10. Robinia.

Shrubs. **19. Amorpha.**
Vines, leaflets sometimes only three. **22. Apios.**
Herbs, not climbing.
Flowers in terminal spikes, ovules 2-3, pod 1-2 seeded included in the calyx.
Stamens 9-10, wings and keel adnate to the filament tube for half its length or less. **20. Parosela.**
Stamens 5, wings and keel adnate by their claws to filament tube to its top. **21. Kuhnistera.**
Flowers axillary, on axillary peduncles or if in terminal clusters the pod long exserted.
Flowers in terminal racemes, pods elongated linear. **11. Cracca.**
Flowers on axillary peduncles, pods short often much inflated.
Herbage not glandular punctate, pods smooth.
Keel of the corolla blunt, not appendaged.
Pod not flattened, one or both sutures intruded. **16. Astragalus.**
Pod flat, both sutures prominent externally. **13. Homalobus.**
Keel produced into a point-like appendage. **12. Aragalus.**
Herbage glandular-punctate, pods prickly. **17. Glycyrrhiza.**
Leaves even-pinnate the rachis usually terminating in a tendril.
Style flattish, hairy on the upper side, stamen tube nearly truncate at the apex. **27. Lathyrus.**
Style filiform, hairy at the tip, stamen tube oblique at the apex. **28. Vicia.**

1. Sophora. 534.

1. Sophora sericea Nutt.
Dry prairies mostly in the western part of the state. Cambridge; Cheyenne County; McCook; Minden; Red Cloud; Red Willow County; Wilsonville.

2. Thermopsis. 534.

1. Thermopsis rhombifolia (Nutt.) Richards.
In sandy soil in the western part of the state. Deuel County; Ft. Robinson; Sioux County; Valentine.

3. Baptisia. 535.

Glabrous, bracts lanceolate, falling before the flowers open. **1. B. leucantha.**
Villous, bracts ovate, persistent. **2. B. bracteata.**

1. Baptisia leucantha T. & G.
Rare in the southeastern part of the state. Crete; Leshara; Lincoln; Nebraska City; Saline County.
2. Baptisia bracteata Ell.
Common on prairies in the southeastern part of the state. Beatrice; Crete; Firbury; Lincoln; Peru; Wahoo.

4. Lupinus. 536.

Perennials, 3-10 dm. high; pubescence silky.
  Calyx not spurred at the base.
    Leaves glabrous above at least in age, corolla pale blue with a dark spot on the banner. **1. L. plattensis.**
    Leaves permanently pubescent above, corolla not spotted. **3. L. decumbens.**
  Calyx spurred at base. **2. L. argophyllus.**
Annuals, 1-3 dm. high; pod 2-seeded. **4. L. pusillus.**

1. Lupinus plattensis S. Wats.
Prairies in the northwestern part of the state. Alliance; Belmont; Box Butte County; Pine Ridge; Sioux County.

2. Lupinus argophyllus (A. Gray.) Cockerel.
In the extreme western part of the state. War Bonnet Canon.

3. Lupinus decumbens Torr.
In prairies in the northwestern corner of the state. Banner County; Hat Creek Basin; Scotts Bluff County.

4. Lupinus pusillus Pursh.
Prairies in the western part of the state. Crawford; Deuel County; Lewellen; Lodge Pole.

5. Crotalaria. 536.

1. Crotalaria sagittalis L.
Lowlands along streams in the eastern part of the state. Dakota County; Peru; Walton.

6. Trifolium. 539.

Flowers white or rose-colored, browish in age, pedicelled.
  Calyx teeth twice as long as the tube.
    Stem and calyx hairy. **1. T. reflexum.**
    Stem and calyx glabrous or nearly so. **2. T. stoloniferum.**
  Calyx teeth not longer than the tube.
    Stems erect or ascending. **4. T. hybridum.**
    Stems creeping, rooting at the nodes. **3. T. repens.**
Flowers red or purple, sessile in dense heads. **5. T. pratense.**

1. Trifolium reflexum L.
Introduced but not common. Diller; Fairbury; Lincoln.

2. Trifolium stoloniferum Muhl.
Open woods, rare. Lincoln; Louisville.

3. Trifolium repens L. **White Clover.**
Common, escaped from cultivation, probably throughout the state. Lincoln.

4. Trifolium hybridum L. **Alsike or Swedish Clover.**
Often escapes from cultivation. Lincoln.

5. Trifolium pratense L. **Red Clover.**
Frequently escapes from cultivation in the eastern part of the state. Lincoln; O'Neill.

7. Melilotus. 538.

Flowers white. 1. M. alba.
Flowers yellow. 2. M. officinalis.

1. Melilotus alba L. **White Sweet Clover.**
Introduced and becoming common throughout the state Ft. Robinson; Kearney; Lincoln; Paddock; Thedford; Red Cloud; Wymore.

2. Melilotus officinalis L. **Yellow Sweet Clover.**
Introduced throughout most of the state. Long Pine; Lincoln; Plainview; Rushville; Wymore.

8. Medicago. 538.

Flowers yellow, pod 1-seeded. 1. .M.lupulina.
Flowers blue or violet, pods several seeded. 2. M. sativa.

1. Medicago lupulina L. **Yellow Trefoil.**
Introduced in the eastern part of the state. Its seeds are sometimes mixed with alfalfa seeds. Lincoln; Plainview; Valentine; Wood River.

2. Medicago sativa L. **Alfalfa, Lucerne.**
Extensively cultivated and often escapes. Broken Bow; Red Cloud; Rushville.

9. Lotus. 541.

1. Lotus americanus (Nutt.) Bisch.
Hosackia americana (Nutt.) Piper.
In dry soil over most of the state. Anselmo; Belmont; Broken Bow; Buffalo County; Cherry County; Fairmont; Hooker County; Lincoln; Mullen; Nelson; Plainview; Red Cloud.

10. Robinia. 549.

1. Robinia pseudacacia L. **Black Locust.**
Escaped along streams in the southeastern part of the state. Lincoln; Peru.

11. Cracca. 548.

1. Cracca virginiana L.
Rare in the southeastern part of the state. Fairbury.

12. Aragalus. 555.

Scape 2-3 dm. high, many flowered, pod exserted fro mthe calyx.
Leaflets narrowly oblong to linear-lanceolate, grayish pubescent. 1. A. lambertii.
Leaflets broadly oblong, ½ to 1 cm. side, silky-villose. 2. A. sericeus.
Scape 1-3 cm. long, 1 to 3 flowered, pod included in the calyx. 3. A. multiceps.

1. Aragalus lambertii (Pursh.) Kuntze. **Loco-Weed.**
Common in the western part of the state. Banner County; Box Butte County; Culbertson; Emerson; Thedford; Minden; Valentine.

2. Aragalus sericeus (Nutt.) Greene. **Loco-Weed.**
Prairies in the western part of the state. Belmont; Pine Ridge: Scotts Bluff County.

3. Aragalus multiceps (Nutt.) Kuntze.
Rare in the western part of the state. Banner County; Kimball County.

13. Homalobus. 554.

Flowers in spike-like racemes on axillary or scape-like peduncles.
Leaves pinnate, leaflets 11–22, flowers yellowish-white. **1. H. tenellus.**
Leaves simple or 3–5 foliate, flowers purple. **3. H. caespitosus.**
Flowers clustered in the axils, nearly sessile. **2. H. montanus.**

1. Homalobus tenellus (Pursh.) Britton.
In dry soil in the western part of the state. Scotts Bluff County; Sioux County.

2. Homalobus montanus (Nutt.) Britton.
Hills and bad-lands of the western part of the state. Belmont; Cheyenne County.

3. Homalobus caespitosus Nutt.
On dry hills and cliffs in the western part of the state. Banner County; Belmont; Harrison.

14. Phaca. 553.

1. Phaca longifolia (Pursh. Nutt.
Common in sandy soil in the western part of the state. Banner County; Kennedy; Sioux County; Thedford; Valentine; War Bonnet Canon.

15. Orophaca. 555.

Flowers yellowish, sessile in the axils.
Corolla glabrous outside; calyx teeth about half as long as the tube. **1. O. caespitosa.**
Corolla pubescent on the outside; calyx teeth nearly as long as the tube. **2. O. argophylla.**
Flowers purplish; in peduncled axillary racemes. **3. O. sericea.**

1. Orophaca caespitosa (Nutt.) Britton.
Dry hills in the western part of the state. Banner County; Belmont; Ft. Robinson; Kimball County.

2. Orophaca argophylla (Nutt.) Rydb.
In dry soil in the western part of the state. Cheyenne County; Deuel County.

3. Orophaca sericea (Nutt.) Britton.
In dry sandy or rocky places in the western part of the state. Alliance; Belmont.

16. Astragalus. 550.

Stems slender, the internodes nearly as long as the leaves.
Flowers 6-8 mm. long, pods 4-6 mm. long.
Leaflets narrowly linear, 2-2.5 mm. long. 4. A. microlobus.
Leaflets linear or linear-oblong, 8-15 mm. long. 4. A. microlobus.
Flowers 8-10 mm. long, pods 15-25 mm. long. 3. A. flexuosus.
Stems generally stout, the internodes much shorter than the leaves.
Leaflets linear filiform . 1. A. pectinatus.
Leaflets oblong or elliptic.
Flowers in elongated spikes or racemes, pods sessile or stipitate.
Flowers yellow or white.
Leaflets less than 2 cm. long, pods stipitate. 11. A. drummondii.
Leaflets over 2 cm. long.
Flowers in loose spikes, pods stipitate. 12. A. racemosus.
Flowers indense spikes, pods sessile. 16. A. carolinianus.
Flowers violet.
Stems tall, erect, leaflets over 1.5 cm. long, pod stipitate. 2. A. bisulcatus.
Stem very short, leaflets less than 1.5 cm. long, pod sessile. 15. A. mollissimus.
Flowers in heads or short spikes or racemes, pods sessile.
Stem 1-6 cm. high, erect ascending or spreading, pods 2-celled.
Flowers purplish or violet-purple.
Peduncles longer than the leaves, pod deeply furrowed.
Leaflets over 1.5 cm. long, calyx and pod appressed pubescent. 13. A. adsurgens.
Leaflets less than 1.5 cm. long, calyx and pod loosely villous. 14. A. goniatus.
Peduncles equaling or shorter than the leaves, pod not furrowed. 17. A. crassicarpus.
Flowers yellow, sometimes tipped with purple.
Slightly pubescent, pod glabrous, 25 mm. long, or more. A. mexicanus.
Villous pubescent, pods pubescent, 12 mm. long. 19. A. plattensis.
Stems very short, plants sub-acaulescent, sometimes longer in A. missouriensis; pod 1-celled.
Flowers purple, plant silky-canescent.
Short stemmed, peduncles generally exceeding the leaves. 7. A. missouriensis.
Acaulescent, peduncles generally shorter than the leaves. 6. A. shortianus.
Flowers yellow, plant appressed-cinerous or hirsute.
Cinerous with appressed hairs, peduncles usually 3-8 cm. long. 8. A. lotiflorus.
Very hairy with spreading hairs, flowers usually sub-sessile in the axils. 9. A. nebraskensis.

1. Astragalus pectinatus (Hook.) Dougl.
Ctenophyllum pectinatum (Hook.) Rydb.
Rare in the western part of the state. Scott Bluffs County.

2. Astragalus bisulcatus (Hook.) A. Gray.
Rare in the western part of the state. Dakota Junction.
3. Astragalus flexuosus Dougl.
Dry soil in the western part of the state. Lewellen.
4. Astragalus microlobus Gray.
Sandy soil in the western part of the state. Alliance; Box Butte County; Deuel County.
5. Astragalus gracilis Nutt.
Dry prairies in the western and central parts of the state. Broken Bow; Chadron; Frontier County; Haigler; Pine Ridge; Ft. Robinson; Red Willow County; Sioux County.
6. Astragalus shortianus Nutt.
In dry soil in the western part of the state. Cherry County; Franklin; Red Cloud.
7. Astragalus missouriensis Nutt.
In the western and central parts of the state. Alliance; Frontier; Ft. Robinson.
8. Astragalus lotiflorus Hook.
Prairies in the western and central parts of the state. Culbertson; Deuel County; Hooker County; Kenesaw; Thedford; Valentine.
9. Astragalus nebraskensis Bates.
In the western part of the state. Ainsworth; Callaway; Clay County; Long Pine; Naponee; Red Cloud.
10. Astragalus giganteus (Pall.) Sheld.
On bottom-lands. North Platte.
11. Astragalus drummondii Dougl.
In the northwestern part of the state. Belmont; Dakota Junction; Harrison.
12. Astragalus racemosus Pursh.
In the northwestern part of the state. Aten; Franklin; Frontier; Pine Ridge; Red Willow County; Red Cloud.
13. Astragalus adsurgens Pall.
Common on prairies in the western part of the state. Belmont; Box Butte County; Deuel County; Long Pine.
14. Astragalus goniatus Nutt.
In the western part of the state. Bassett; Crawford; Gordon.
15. Astragalus mollissimus Torr.
Prairies in the western and central parts of the state. Alliance; Box Butte County; Cambridge; Culbertson; Kearney; Minden; Red Willow County; Republican.
16. Astragalus carolinianus L.
Astragalus canadensis L.
Common throughout the state. Indianola; Hooker County; Laurel; Lincoln; Niobrara; Newark.
17. Astragalus crassicarpus Nutt.
Astragalus caryocarpus Ker.
Common on prairies all over the state. Minden; Plainview; Red Cloud; Valentine.
18. Astragalus mexicanus A.-DC.
Reported from the northwestern part of the state.
19. Astragalus plattensis Nutt.
In the western and central parts of the state. Burwell; Belmont; Callaway; Chadron; Fairbury; Hastings; Lincoln; Neligh; Ft. Robinson.

17. Glycyrrhiza. 557.

1. Glycyrrhiza lepidota Pursh. **Wild Liquorice.**
Common on prairies all over the state. Cherry County; Hooker County; Lancaster County; Newcastle; Sioux County; Thedford; Valentine.

18. Psoralea. 542.

Leaves mostly 5-foliate, some of the upper sometimes 3-foliate flowers mostly 1 cm. or more long.
Petioles much longer than the leaflets, the lower 2–4 times as long.
Stems 1–4 dm. high, spikes 3.5-8 cm. long. **1. P. esculenta**
Stems hardly rising above the ground, spikes not over 2.5 cm. long. **2. P. hypogaea.**
Petioles little if any longer than the leaflets.
Flowers in loose spikes, stipules 1–2 cm. long. **1. P. cuspidata.**
Flowers sessile in dense heads, stipules 5–10 mm. long.
Calyx lobes nearly equal, all much shorter than the corolla. **4. P. digitata.**
Calyx lobes very unequal, the lower 1 cm. long, longer than the corolla. **5. P. argophylla.**
Leaves mostly 3-foliate, the lower sometimes 5-foliate, flowers 4–9 mm. long.
Peduncles longer than the leaves, mostly several times as long.
Leaflets linear, 2–4 mm. mide. **9. P. linearfolia.**
Leaflets broader.
Flowers sessile on the peduncles. **6. P. collina.**
Flowers stalked on the peduncles
Flowers few, 1–2 to each bract, 4–5 mm. long. **7. P. tenuiflora.**
Flowers many, 2–3 to each bract, 5–7 mm. long. **8. P. floribunda.**
Peduncles about as long as the leavse, spikes few flowered.
Leaflets filiform-linear. **11. P. micrantha.**
Leaflets narrowly oblong. **10. P. lanceolata.**

1. Psoralea esculenta Pursh. **Pomme Blanch.**
In high prairies throughout the state. Atkinson; Beatrice; Fairbury; Gordon; Holdege; Ponca; Red Cloud; Sheridan County; Sioux County; Thedford; Valentine.

2. Psoralea hypogaea Nutt.
Rare in the western part of the state. Alliance; Deuel County.

3. Psoralea cuspidata Pursh.
On dry bluffs and prairies, probably throughout the western part of the state. Dakota Junction; Grand Rapids; Valentine.

4. Psoralea digitata Nutt.
Common on prairies in the sand-hill regions. Anselmo; Grand Island; Kearney; Long Pine; Norway; Phelps County; Sargent; Sheridan County; Weigand.

5. Psoralea argophylla Pursh.
Common on prairies throughout the state. Belmont; Box Butte

County; Haigler; Lincoln; St. James; Sioux County; Thedford; Wahoo.

6. Psoralea collina Rydb.
On hillsides in the northwestern part of the state. Chadron; Ft. Robinson; Scotts Bluff County.

7. Psoralea tenuiflora Pursh.
Common on hills and table-lands in the western part of the state. Deuel County; Fairbury; Franklin; Lincoln; Phelps County; Ft. Robinson; Talmage.

8. Psoralea floribunda Nutt.
Psoralea tenuiflora floribunda (Nutt.) Rydb.
In valleys, most common in the eastern part of the state. Minden.

9. Psoralea linearifolia Torr. & Gray.
Rare in the western part of the state. Buffalo County; Deuel County.

10. Psoralea lanceolata Pursh.
Common in sandy soil in the central and western part of the state. Belmont; Haigler; Kearney County; Mullen; Riverton; Rock County; Sheridan County; Sioux County; Thomas County.

11. Psoralea micrantha A. Gray.
(Included in **P. lanceolata** in Gray's Manual.)
Nebraska according to Britton's Manual.

19. Amorpha. 545.

Plants 2–5 m. high, leaflets 1.5–3 cm. long. **1. A. fruticosa.**
Plants 1 m. or less high, leaflets not more than 1 cm. long.
Softly grayish-canescent, leaflets about 1 cm. long, spikes several clustered. **2. A. canescens.**
Glabrous, foliage bright green, leaflets 5-7 mm. long, spike usually solitary, terminal. **3. A. nana.**

1. Amorpha fruticosa L. **False Indigo.**
Common along streams throughout the state. Fairbury; Indianola; Kearney; Lincoln; Ponca; Red Cloud; Thedford; Walton.

2. Amorpha canescens Pursh. **Shoe-Strings, Lead Plant.**
Common on dry prairies throughout the state. Anselmo; Aten; Lincoln; Sheridan; Talmage; Thedford.

3. Amorpha nana Nutt.
Amorpha microphylla Pursh.
Abundant on the bluffs of the Missouri in northeastern Nebraska. Aten; Butte.

20. Parosela. (Dalea.) 545.

Glabrous, spikes usually several, flowers white or pink.
Spike long, 5–13 cm., flowers distant, leaflets 5–11. **1. P. enneandra.**
Spikes short, 2-5 cm., dense, leaflets 15-41. **2. P. dalea.**
Pubescent, spike solitary, ovoid or globse, flowers yellow. **3. P. aurea.**

1. Parosela enneandra (Nutt.) Britton.
Rather common in the western part of the state. Broken Bow; Callaway; Deuel County; Hastings; Kearney; Nelson; Minden; Niobrara; Phelps County; Red Cloud.

2. Parosela dalea (L.) Britton.
Dalea alopecuroides Willd.
Common on prairies in the eastern and central parts of the state. Atkinson; Bellevue; Franklin; Kearney; Keya Paha County; Republican; Saunders County; Seward.

3. Parosela aurea (Nutt.) Britton.
Dry gravelly soil mostly in the northern part of the state. Deuel County; Franklin; Long Pine; Niobrara; Scotts Bluff County; Valentine.

21. Kuhnistera (Petalostemon.) 546.

Densely villous or silky-pubescent all over, leaflets 9-17. **1. K. villosa.**
Glabrous or nearly so, leaflets 3-9.
Flowers purple, leaflets 3-5. **2. K. purpurea.**
Flowers white, leaflets 3-9.
Calyx densely silky-villose. **3. K. compacta.**
Calyx glabrous or nearly so.
Leaflets lanecolate or oblong, 15-25 mm. long, 3-6 mm. wide. **4. K. candida.**
Leaflets linear or nearly so, mostly less than 20 mm. long, 2-4 mm. wide. **5. K. oligophylla.**

1. Kuhnistera villosa (Nutt.) Kuntze. **Hairy Prairie Clover.**
In dry soil, common in the sand-hills. Foster; Kearney; Mullen; Pishelville; Thedford; Valley Junction; Royal; Valentine.

2. Kuhnistero purpurea (Vent.) MacM. **Purple Prairie Clover.**
Common in prairies throughout the state. Brown County; Dannebrog; Deuel County; Kearney; Lincoln; Plummer Ford; Sioux County; Weigand.

3. Kuhnistera compacta (Spreng.) Kuntze.
Rare in the western part of the state. Scotts Bluff County.

4. Kuhnistera candida (Willd.) Kuntze. **White Prairie Clover.**
Common in rich soil in the eastern and central part of the state. Crawford; Brown County; Fairbury; Haigler; Kearney; Lincoln; Niobrara.

5. Kuhnistera oligophylla (Torr.) Heller.
Common in sandy places in the central and western parts of the state. Ashton; Callaway; Sioux County.

22. Apios. 569.

1. Apios tuberosa Moench.
Apios apios (L.) MacM.
Common in rich soil in the eastern part of the state and extending along streams farther west. Keya Paha County; Peru; Platte River; Plummer Ford; Valentine.

23. Strophostyles. 571.

Leaflets broadly ovate, often lobed, pods slightly pubescent. **1. S. helvola.**
Leaflets lanceolate, or linear oblong, entire, pods very pubescent. **2. S. pauciflora.**

1. Strophostyles helvola (L.) Britton. **Wild Bean.**
In sandy soil mostly in the eastern part of the state. Guide Rock; Paddock; Red Cloud; Seward; Lincoln; Neligh; Pauline.
2. Strophostyles peuciflora (Benth.) A. Wats. **Wild Bean.**
In sandy soil along streams throughout the state. Atkinson; Big Sandy Creek; Dismal River; Hastings; Kearney; Lincoln; Nelson; Wahoo.

24. Falcata. 569.

Bracts rhombic-oval, shorter than the pedicels, calyx of the perfect flowers 3-4 mm. long. **1. F. comosa.**
Bracts nearly orbicular, large, generally as long as the pedicels or longer, calyx of the fertile flowers 5-6 mm. long. **2. F. pitcheri.**

1. Falcata comosa (L.) Kuntze. **Wild Peanut.**
In moist thickets in the eastern part of the state. Beaver Creek; Franklin; Halsey; Lincoln; Peru; St. Paul; Weeping Water.
2. Falcata pitcheri (T. & G.) Kuntze.
Common in woods and thickets in the central and eastern parts of the state. Ashland; Endicott; Halsey; Wahoo; Red Cloud.

25. Meibomia. (Desmodium.) 559.

Leaves crowded at the top of the stem, panicle terminal, pods on a stripe much longer than the calyx lobes. **1. M. grandiflora.**
Leaves scattered along the stem, stipe if present shorter than the calyx lobes.
Petioles about as long as the lateral leaflets, stipules ovate, persistent.
Joints of the pod longer than wide, about 12 mm. long. **2. M. canescens.**
Joints of the pod not longer than wide, about 6 mm. wide. **3. M. illinoensis.**
Petioles not more than half as long as the lateral leaflets, sitpules lanceolate or subulate.
Flowers 10-15 mm. long, stipules linear-lanceolate, persistent. **4. M. canadensis.**
Flowers 6-8 mm. long, stipules subulate, deciduous.
Stems pubescent, leaflets not over 7.5 cm. long. **5. M. dillenii.**
Stems glabrous, or nearly so, leaflets over 7.5 cm. long. **6. M. paniculata.**

1. Meibomia grandiflora (Walt.) Kuntze.
In rich soil in woods in the eastern part of the state. Crete; Endicott; Fremont Island; Lincoln; Niobrara; Weeping Water.
2. Meibomia canescens (L.) Kuntze.
In woods and thickets in the eastern part of the state. Beaver Creek; Lincoln; Omaha; Wabash; Weeping Water.
3. Meibomia illinoensis (Gray.) Kuntze.
Dry prairies in the eastern part of the state. Lincoln; Walton.
4. Meibomia canadensis L.) Kuntze.
Common in the eastern part of the state and along streams in the western part. Chelsea; Guide Rock; Kearney; Lincoln; Mullen; Omaha; St. Paul; Talmage.

5. Meibomia dillenii (Darl.) Kuntze.
In the southeastern part of the state. Weeping Water.

6. Meibomia paniculata (L.) Kuntze.
Wooded bluffs in the southeastern part of the state. Nemaha; Richardson County; Washington County.

26. Lespedeza. 562.

1. Lespedeza capitata Michx.
Common on prairies in the eastern and central parts of the state. Ainsworth; Halsey; Kearney; Laurel; Lincoln; Republican.

27. Lathyrus. 567.

Flowers purple.
  Glabrous or somewhat pubescent when young, flowers 2–2.5 cm. long. **1. L. ornatus.**
  Grayish-pubescent all over, flowers less than 2 cm. long. **1a. L. ornatus incanus.**
Flowers yellowish. **1b. L. ornatus flavescens.**

1. Lathyrus ornatus Nutt.
Common throughout the state. Fremont; Grand Island; Long Pine; Ft. Robinson; Shelton.

1a. Lathyrus ornatus incanus Smith & Rydberg.
In the western part of the state. Ft. Robinson; Sheridan; White River.

1b. Lathyrus ornatus flavescens Rydb.
In sandy soil in the western part of the state. Dodge, Kearney and Cherry Counties.

28. Vicia. 565.

Flowers numerous in dense, 1-sided racemes. **1. V. villosa.**
Flowers 2–9, in loose racemes.
  Leaflets elliptic to linear-oblong, stipules toothed.
    Stems smooth or nearly so, leaflets elliptical or ovate-oblong. **2. V. americana.**
    Stems generally more pubescent, leaflets linear-oblong or cuneate. **2a. V. amer. truncata.**
  Leaflets linear, stipules narrow and less toothed. **2b. V. amer. linearis.**

1. Vicia villosa Roth. **Hairy Vetch.**
Introduced and still rare. Riverton; Tecumseh.

2. Vicia americana Muhl. **American Vetch.**
Rich soil in the eastern part of the state. University Place; Weeping Water.

2a. Vicia americana truncata (Nutt.) Brewer.
All streams mostly in the eastern part of the state. Nebraska City; Peru; Gordon; Whitney.

2b. Vicia americana linearis (Nutt.) S. Wats.
Dry prairies throughout the state. Antelope County; Callaway; Emerson; Fairbury; Lincoln; Minden; Red Cloud.

3. CRASSULACEAE.

Carpels distinct to the base or nearly so. **1. Sedum.**
Carpels united to the middle or above. **2. Penthorum.**

1. Sedum. 473.

1. Sedum stenopetalum Pursh.
On dry stony hills in the northwestern part of the state. Hat Creek Basin; Harrison.

2. Penthorum. 475.

1. Penthorum sedoides L.
Common on banks, in ditches and in other wet places in the eastern part of the state. Ewing; Newark; Grand Island; Lincoln; Plainview; Red Bird Creek; Walton; Wahoo.

4. SAXIFRAGACEAE.

Herbs, leaves all basal. **1. Heuchera.**
Shrubs, stems leafy often thorny. **2. Ribes.**

1. Heuchera. 481.

1. Heuchera hispida Pursh.
Woods and on wooded bluffs; not common. Ashland; Belmont; Long Pine.

2. Ribes. 486.

Stems with spines at the base of the leaf stalks. **Gooseberries.**
  Stems generally very setose-prickly, bark more or less scaly, fruit purplish, sour. **1. R. setosum.**
  Stems generally smooth and shining, fruit brownish, smooth. **2. R. gracile.**
Stems unarmed, leaves three to five lobed. **Currants.**
  Lobes crenate or dentate, flowers white or greenish white.
    Racemes many flowered, flowers pediceled, calyx tube bell-shaped. fruit black. **4. R. floridum.**
    Racemes few flowered, flowers sessile or short pediceled, calyx tube narrow, fruit brownish. **5. R. inebrians.**
  Lobes few-toothed or entire, flowers bright yellow.
    Fruit when ripe dark-brown or black. **6 R. aurem.**
    Fruit yellow when ripe. **6a. R. aurem var. chryossoccos.**

1. Ribes setosum Lindl. **Western Wild Gooseberry.**
On gravelly hills in the northwestern part of the state. Crawford; Ft. Robinson.

2. Ribes gracile Michx. **Common Wild Gooseberry.**
Common in valleys and along streams throughout the most of the state. Guide Rock; Lincoln; Long Pine; Wahoo.

3. Ribes oxycanthoides L.
Ribes valicola Greene.
In the northwestern part of the state. Cherry County; Newcastle; Merriman; Sioux County.

4. Ribes floridum L'Her. **Wild Black Currant.**
Along water courses throughout the state. Antelope County; Arapahoe; Aten; Bellevue; Burwell; Holdrege; Lincoln; Norway; Sioux County.
5. Ribes inebrians Lindl.
On dry hills in the northwestern part of the state. Banner County; Belmont; Harrison; Sioux County.
6. Ribes aureum Pursh.
Common on the hillsides in the western and northern parts of the state. Belmont; Lincoln; Mullen; New Helena; Ft. Robinson; Sioux County.
6a. Ribes aureum chysococcos Rydb.
Rare in the northwestern part of the state. Banner County; Cherry County; Scotts Bluff County.

5. PLATANACEAE.

Platanus. 490.

1. Platanus occidentalis L. **Button-Ball, Plane-Tree.**
In low woods in the southeastern part of the state. Brownsville; Peru; Richardson County.

MYRTALES.

Terrestrial plants, or if aquatic the submerged leaves neither whorled nor dissected.
  Hypanthium enclosing the ovary but free from it. **1. Lythraceae.**
  Hypanthium adhering to the ovary.
    Flowers usually with petals, leaves rarely cordate. **2. Onagraceae.**
    Flowers apetalous; leaves broader than long, cordate. **5. Aristolochiaceae.**
Aquatic plants with whorled leaves.
  Submerged leaves pinnately dissected. **3. Halorrhagidaceae.**
  All the leaves entire. **4. Hippuridaceae.**

1. LYTHRACEAE.

Hypanthium short, about as long as wide.
  Leaves, at least the upper, clasping by a broad auricled base. **1. Ammannia.**
  Leaves not auricled, usually narrowed at the base.
    Calyx without accessory teeth in the sinuses; petals none. **2. Didiphis.**
    Calyx 4-toothed with as many accessory teeth in the sinuses; petals 4, small. **3. Rotala.**
Hypanthium cylindrical. much longer than wide; petals generally 6. **4. Lythrum.**

1. Ammannia. 648.

Flowers axillary, sessile or nearly so. **1. A. coccinea.**
Flowers in axillary cymes pedicels 1–3 mm. long. **2. A. auriculata.**

1. Ammania coccinea Rotth.
Common in wet places in the southeastern part of the state. Kennedy; Lincoln; Nebraska City; Weeping Water; Plainview.
2. Ammannia auriculata Willd.
Rare in the southeastern part of the state. Fillmore County; Lincoln.

2. Didiplis. 648.

1. Didiplis diandra (Nutt.) Wood.
Rare in the southeastern part of the state. Lincoln.

3. Rotala. 649.

1. Rotala ramasior (L.) Koehne.
In wet places, rare. Cherry County; Lincoln.

4. Lythrum. 649.

1. Lythrum alatum Pursh.
Common in wet ground, especially along ponds, streams, and ditches. Callaway; Endicott; Laurel; Lincoln; Mead; Nebraska City; New Helena; Ponca; Plummer Ford; Valentine.

2. ONAGRACEAE.

Calyx persistent; hypanthium not prolonged beyond the ovary.
  Leaves opposite, stems procumbent or floating. **1. Isnardia.**
  Leaves alternate, stems erect or ascending. **2. Ludwigia.**
Calyx deciduous; hypanthium usually prolonged beyond the ovary.
  Seeds with a tuft of hairs, calyx tube, little if at all, prolonged beyond the ovary.
    Flowers over 15 mm. broad, petals entire. **3. Chamaenerion.**
    Flowers less than 15 mm. broad or the petals notched at the apex. **4. Epilobium.**
  Seeds without a tuft of hairs, calyx tube distinctly prolonged beyond the ovary.
    Caulescent plants, flowers axillary or spicate.
      Ovules and seeds usually numerous, more than four; fruit a dehiscent capsule.
        Stigma four-toothed or four-lobed.
          Stigma deeply cleft into 4 linear lobes.
            Capsule not broadly winged.
              Flowers yellow, nocturnal.
                Ovules and seeds horizontal, angled; capsule tapering from a thickened base. **5. Onagra.**
                Ovules and seeds ascending, not angled; capsule of nearly uniform diameter. **6. Oenothera.**
              Flowers white or pink, mostly diurnal.
                Capsule not narrowed into a curved beak; leaves mostly over 25 mm. long.
                  Ovules in one row in each cavity of the ovary, ascending. **7. Anogra.**
                  Ovules in many rows in each cavity of the ovary, on slender stalks. **8. Hartmannia.**
                Capsule narrowed into a curved beak, leaves 8–15 mm.

long. **11. Gaurella.**
Capsule broadly winged, calyx tube 4–12 times as long as the ovary. **12. Megapterium.**
Stigma merely 4 toothed, calyx tube shorter than the ovary. **14. Meriolix.**
Stigma capitate, calyx tube longer than the ovary. **13. Galpinsia.**
Ovules and seeds few, 1–4, fruit indehiscent.
Petals 4, stamens usually 8, fruit not bristly with hooked hairs.
Ovary 4 celled, leaves denticulate to sinuate-toothed. **15. Gaura.**
Ovary 1-celled; leaves entire. **16. Stenosiphon.**
Petals 2, stamens 2, fruit bristly with hooked hairs. **17. Circaea.**
Acaulescent plants, rarely producing short stems, flowers basal, clustered.
Angles of the capsule tuberculate, seed furrowed. **9. Pachylophus.**
Angles of the capsule winged, smooth, seeds with a tubercle near one end. **10. Lavauxia.**

1. Isnardia. 652.

1. Isnardia palustris L.
In swampy or boggy places in various localities in the state, forms a carpet-like covering over the mud. Grand Island; Louisville; Minden; Turner; Wood River.

2. Ludwigia. 653.

Flowers sessile, about 3 mm. broad, petals minute greenish. **1. L. polycarpa.**
Flowers short peduncled, 12-16 mm. broad, petals large, bright yellow. **2. L. alternifolia.**

1. Ludwigia polycarpa Short & Peter.
In swampy places mostly in the eastern part of the state. Ainsworth; Lincoln.

2. Ludwigia alternifolia L.
In swampy places in the southeastern part of the state. Endicott.

3. Chamaenerion. 655.

1. Chamaenerion angustifolium (L.) Scop. **Willow-Herb, Fire-Weed.**
In the northwestern part of the state, not abundant.

4. Epilobium. 655.

Leaves entire or nearly so, linear or linear-lanceolate. **1. E. lineare.**
Leaves serrate, lanceolate.
Mature seeds with cinnamon-colored coma, beakless, 1-5 mm. long. **2. E. coloratum.**
Mature seeds with white coma, short beaked, 1mm. long. **3. E. adenocaulon.**

1. Epilobium lineare Muhl.
In wet, swampy places. Big Sandy Creek; Hooker County; Red Cloud; Thedford.

2. Epilobium coloratum Muhl.
In sandy marshes, mostly in the western part of the state. Belmont; Mullen; Riverton; Spencer; Valentine; Weeping Water.

3. Epilobium adenocaulon Haussk.
In moist sandy ground mostly in the western part of the state. Bellevue; Ewing; Kennedy; Kimball; Long Pine; Minden; Mullen; Sioux County; Thedford; Valentine.

5. Onagra. 657.

Capsules 2.5-3 cm. long, abruptly narrowed at the tip; calyx lobes appendaged at the tip. **1. O. strigosa.**
Capsules 3-4 cm. long, gradually narrowed to the tip; calyx lobes appendaged below the tip. **2. O. oakesiana.**

1. Onagra strigosa Rydb. **Common Evening-Primrose.**
Onagra biennis canescens T. & G.
Common throughout the state as a weed, mostly in sandy soil. Aten; Atkinson; Deuel County; Lincoln; Mullen; Republican Valley.

2. Onagra oakesiana (A. Gray.) Britton.
Nebraska according to Britton's Manual.

6. Oenothera. 658.

Decumbent or ascending, flowers axillary, leaves sinuate-dentate or pinnatifid. **1. Œ. laciniata.**
Erect, flowers spicate, upper leaves remotely denticulate or nearly entire. **2. Œ.rhombipetala.**

1. Œnothera laciniata Hill.
Common especially in sandy soil over most of the state. Atkinson; Central City; Deuel County; Fairbury; Hastings; Keya Paha; Long Pine; Thedford.

2. Œnothera rhombipetala Nutt.
On prairies not very common. Kearney; Kennedy; Minden; Niobrara; Plummer Ford.

7. Anogra. 658.

Tips of the calyx lobes not free in the bud. **1. A. albicaulis.**
Tips of the calyx lobes free in the bud.
Capsule linear-cylindric; throat of the calyx glabrous;.
Calyx sparingly long-hairy, puberulent or glabrous, not strigose.
Leaves glabrous. **2. A. pallida.**
Leaves pubescent or strigose.
Leaves linear, entire or nearly so, strigose beneath. **3. A. nuttallii.**
Leaves usually denticulate or lobed, pubescent on both sides. **4. A. cinerea.**
Calyx and calyx-tube densely grayish strigose; leaves cinerous. **5. A. latifolia.**
Capsule oblong, 8-20 mm. long; leaves deeply pinnatifid. **6. A. coronopifolia.**

1. Anogra albicaulis (Pursh.) Britton.
In the western part of the state, mostly in the foot-hills. Curtis; Ft. Robinson; Gerard.

2. Anogra pallida (Lindl.) Britton.
Common in the sand-hill regions. Belmont; Callaway; Chelsea; Deuel County; Haigler; Hooker County; Pine Ridge; Valentine.

3. Anogra nuttallii (Sweet.) A. Nels.
Western Nebraska according to Nelson in Bot. Gaz. 34:368. 1902.

4. Anogra cinerea Rydb.
Western Nebraska according to Rydberg's Flora of Colorado.

5. Anogra latifolia Rydb.
On sandy soil in the western part of the state. Deuel County.

6. Anogra coronopifolia (T. & G.) Britton.
On high prairies in the western part of the state. Alliance; Belmont; Box Butte County; Deuel County; Pine Ridge.

8. Hartmannia. 660.

1. Hartmannia speciosa (Nutt.) Small.
Red Cloud.

9. Pachylophus. 660.

1. Pachylophus caespitosa (Nutt.) Raimann.
In dry soil in the western part of the state. Alliance; Hat Creek Basin; Ft. Robinson.

10. Lavauxia. 661.

Leaves strigose-canescent; flowers over 5 cm. broad, capsule obtuse. **1. L. brachycarpa.**
Leaves green; flowers less than 5 cm. broad, capsule beaked. **2. L. flava.**

1. Lavauxia brachycarpa (Gray) Britton.
Western Nebraska according to Nelson's Flora of the Rocky Mountains.

2. Lavauxia flava A. Nels.
Western Nebraska.

11. Gaurella. 661.

1. Gaurella canescens (Torr.) A. Nels.
Gaurella guttulata (Geyer.) Small.
On dry prairies in the western part of the state. Banner County; Cheyenne County; Deuel County.

12. Megapterium. 661.

Petals 3-4 cm. long; capsules 2-3 cm. long, less than 2 cm. wide. **1. M. fremontii.**
Petals 5-7 cm. long; capsules 5 cm. long, suborbicular. **2. M. missouriense.**

1. Megapterium fremontii (S. Wats.) Britton.
Dry bluffs in the Republican valley. Franklin; Red Cloud.

2. Megapterium missouriense (Sims.) Spach.
Dry limestone bluffs mostly along the Blue River. Beatrice; Fairbury; Homesville; Salem; Steele City; Wymore.

13. Galpinsia. 662.

1. Galpinsia lavandulaefolia (T. & G.) Small.
On dry prairies in the western part of the state. Deuel County.

14. Meriolix. 662.

1. Meriolix serrulata (Nutt.) Walp.
Common on dry prairies all over the state. Antelope County; Deuel County; Fairbury; Franklin; Indianola; Kearney; Neligh; Pine Ridge; Ponca; Plummer Ford; Sheridan County; Sioux County.

15. Gaura. 662.

Plants 1.5-6 dm. high, bracts persistent. **2. G. coccinea.**
Plants 6-15 dm. high, bracts deciduous.
  Flowers 3-4 mm. broad, pink. **1. G. parviflora.**
  Flowers 8-10 mm. broad, flowers white turning pink.
    Stems hirsute, leaves thin. **3. G. biennis.**
    Stems puberulent, leaves relatively thick. **4. G. pitcheri.**

1. Gaura parviflora Dougl.
A common weed over the whole state. Crawford; Franklin; Lincoln; Newark; St. James.
2. Gaura coccinea Pursh.
Common on dry prairies and waste places throughout the state. Belmont; Box Butte County; Hastings; Kearney; Lincoln; Ponca; Sioux County; Thedford; Valentine.
3. Gaura biennis L.
A common weed in the eastern part of the state. Broken Bow; Crete; Kearney; Lincoln; Seward County.
4. Gaura pitcheri (T. & G.) Small.
Nebraska according to Britton's Manual.

16. Stenosiphon. 663.

1. Stenosiphon linifolium (Nutt.)
In the valley of the Republican. Franklin; Red Cloud.

17. Circaea. 663.

1. Circaea lutetiana L.
In woods mostly in the eastern part of the state. Bellevue; Dismal River; Franklin County; Grand Island; Pishelville; Plummer Ford.

3. HALORRHAGIDACEAE.

Myriophyllum. 665.

Floral leaves small, usually shorter than the flowers, fruit smooth or nearly so. **1. M. spicatum.**
Floral leaves large, 5-12 mm. long, much longer than the flowers, fruit rough. **2. M. pinnatum.**

1. Myriophyllum spicatum L. **Spiked Water-Milfoil.**
In water in various localities. Kearney; Long Pine; Whitman; Wood Lake.

2. Myriophyllum pinnatum (Walt.) B. S .P.
Lincoln.

4. HIPPURIDACEAE.

Hippuris. 665.

1. Hippuris vulgaris L.
In swamps 25 miles south of Whitman.

5. ARISTOLOCHIACEAE.

Asarum. 348.

1. Asarum reflexum Bicknell.
In northwestern Kansas and probably in southeastern Nebraska.

CACTALES.

CACTACEAE.

Stems globose, or ovoid, tubercled, not jointed. **1. Cactus.**
Stems jointed, the joints flattened or cylindrical, not tubercled. **2. Opuntia.**

1. Cactus. 644.

Tubercles with 10-20 gray spines, berry 6-8 mm. in diameter. **1. C. missouriensis.**
Tubercles with 3-8 reddish-brown spines surrounded by grayish ones, berry 12-18 mm. in diameter. **2. C. viviparus.**

1. Cactus missouriensis (Sweet) Kuntze.
Valentine.

2. Cactus viviparus Nutt.
In dry soil in the northwestern part of the state. Alliance; Cherry County; Kearney; Sheridan County; Valentine.

2. Opuntia. 644.

Internodes of stem decidedly flattened, 5-20 cm. long:
Flowers yellow.
Pulvini 18-35 mm. apart, 1-5 spined or spines wanting, fruit pulpy, unarmed or nearly so.
Internodes 7-13 cm. long, spines dissimilar, 1-3 or wanting 2-2.5 cm. long. **1. O. humifusa.**
Internodes 15-20 cm. long, spines alike, 3-5, 3.5-6 cm. long. **2. O. tortispina.**
Pulvini 8-12 mm. apart, spines 8-15, fruit dry, spiny. **3. O. polycantha.**
Flowers red, pulvini 2-4 spined, fruit, very spiny. **4. O. rhodantha.**
Internodes terete or slightly flattened, easily breaking apart 2-5 cm. long. **5. O. fragilis.**

1. Opuntia humifusa Raf. **Western Prickly-Pear.**
Opuntia mesacantha Raf.
Common in dry soil in the northwestern part of the state. Belmont; Cherry County; Long Pine; Pine Ridge; Thomas County; Wilsonville.

2. Opuntia tortispina Englem.
Nebraska according to Britton's Manual.

3. Opuntia polyacantha Haw.
In dry prairies mostly in the western part of the state. Alliance; Belmont; Cherry County; Grand Island; Holdrege; Phelps County; Pine Ridge; Plummer Ford; Thedford.

4. Opuntia rhodantha K. Sch.
Nebraska according to Rydberg's Flora of Colorado.

5. Opuntia fragilis (Nutt.) Haw.
In dry soil in the northern and western parts of the state. Cherry County; Deuel County; Sheridan County; Valentine.

LOASALES.

Erect herbs; flowers perfect; stamens numerous. **1. Loasaceae.**
Climbing or prostrate vines; flowers monoecious or dioecious; stamens not more than three. **2. Cucurbitaceae.**

1. LOASACEAE.

Mentzelia. 641.

Flowers not over 2 cm. broad, petals 5, filaments 20-40, capsule linear.
Stems very rough, calyx lobes 6 mm. long, capsule 6-12 seeded. **M. oligosperma.**
Stems nearly smooth, calyx lobes 4 mm. long, seeds numerous. **2. M. albicaulis.**
Flowers 3-10 cm. broad, petals 5 or 10, filaments 100 or more, capsule oblong.
Flowers 3-5 cm. broad, petals 10, capsule 1.5-2.5 cm. long. **1. M. nuda.**
Flowers 7-10 cm. broad, capsules 2.5-3 cm. long.
Flowers yellowish-white, opening in the evening, petals 10, calyx tube bracted. **3. M. decapetala.**
Flowers bright yellow, opening in the sunshine, petals 5, or if 10 the inner narrower, capsules bractless. **4. M. laevicaulis.**

1. Mentzelia nuda (Pursh) T. & G.
Dry prairies i nthe western part of the state. Alliance; Belmont; Dismal River Pine Ridge; Scitts Bluff; Turner Creek; Deuel County.

2. Mentzelia albicaulis Dougl.
Scotts Bluff.

3. Mentzelia decapetala (Pursh.) Urban & Gilg.
Dry prairies mostly in the western and northern parts of the state. Chadron; Franklin; Grand Rapids; Hat Creek Basin; Niobrara; Pine Ridge; Red Cloud; Scotts Bluff County.

4. Mentzelia laevocaulis (Dougl.) T. & G.
Box Butte County.

2. CUCURBITACEAE.

Prostrate vines with large yellow flowers, corolla 6-10 cm. long, fruit smooth. **1. Cucurbita.**

Climbing vines with small white or greenish flowers, fruit prickly.

Pistillate flowers solitary or 2 together, fruit several-seeded, dehiscent. **2. Micrampelis.**

Pistillate flowers clustered, 3-10 together, fruit 1-seeded, indehiscent. **3. Sicyos.**

1. Cucurbita. 882.

1. Cucurbita foetidissima H. B. K. **Fetid or Missouri Gourd.**
On dry prairies mostly in the western part of the state. Franklin; Indianola; Lincoln; Peru; Wilsonville.

2. Micrampelis. 882.

1. Micrampelis lobata (Michx.) Greene.
Common in rich soil along streams in the eastern part of the state. Ft. Robinson; Lincoln; Nebraska City; Spencer; Wahoo.

3. Sicyos. 883.

1. Sicyos angulatus L. **One-seeded Bur-cucumber.**
In moist soil, mostly along streams, in the eastern part of the state. Lincoln; Talmage.

CELESTRALES.

Petals 4 or 5, (wanting in **Rhamnus alnifolia**).

Leaves alternate or if opposite simple, fruit various but not a bladdery capsule.

Stamens opposite the petals.

Our species shrubs with alternate leaves. **1. Rhamnaceae.**

Vines with tendrils. **2. Vitaceae.**

Stamens alternate with the petals, shrubs with alternate leaves or vines without tendrils. **3. Celastraceae.**

Leaves opposite trifoliate, fruit a bladdery capsule. **4. Staphyleaceae.**

Petals none.

Trees or shrubs, foliage scurfy or stellate-pubescent. **5. Elaeagnaceae.**

Herbs, foliage glabrous. **6. Santalaceae.**

1. RHAMNACEAE.

Flowers in axillary clusters, petals short clawed, fruit a drupe. **1. Rhamnus.**

Flowers in terminal and axillary clusters, petals with very long claws, fruit dry. **2. Ceanothus.**

1. Rhamnus. 612.

Flowers 2 or 3 together in the axils not umbeled.

Petals present, calyx teeth 4, nutlets 2. **1. R. lanceoalta.**

Petals wanting, calyx teeth 5, nutlets 3. **2. R. alnifolia.**

Flowers in axillary peduncled umbels. **3. R. caroliniana.**

1. Rhamnus lanceolata Pursh. **Buckthorn.**
In moist soil in the eastern part of the state. Bellevue, Meadville; Nehawka; Nemaha; Weeping Water; Wymore.
2. Rhamnus alnifolia L'Her.
In swampy soil in the eastern part of the state. Omaha.
3. Rhamnus caroliniana Pursh.
In the southeastern part of the state. Weeping Water; Wymore.

2. Ceanothus. 613.

Peduncles terminal and axillary, elongated, the axillary as long as the leaves, leaves 2.5-5.5 wide. **1. C. americanus.**
Peduncles mostly terminal, short, leaves 7-26 mm. wide.
Nearly glabrous. **2. C. ovatus.**
Leaves, petioles and peduncles densely pubescent. **2a. C. ovatus pubescens.**

1. Ceanothus americanus L. **New Jersey Tea.**
In the southeastern part of the state. Fairbury; Lincoln; Weeping Water.
2. Ceanothus ovatus Desf. **Red Root.**
Over most of the state but most common in the east. Lincoln; Richardson County; Thedford; Wymore.
2a. Ceanothus ovatus pubescens T. & G.
Over a large part of the state, but most common in the east. Long Pine; Ponca; Red Cloud; Thedford; Cuba; Kennedy.

2. VITACEAE.

Inflorescence thyrsoid, the peduncle usually continuing through it as a main axis, petals falling away together without expanding. **1. Vitis.**
Inflorescence cymose, the peduncle repeatedly forked, into several main branches, petals separating and expanding before falling.
Leaves not palmately compound. **2. Ampelopsis.**
Leaves palmately compound. **3. Parthenocissus.**

1. Vitis. 613.

Leaves densely flocose-pubescent beneath.
Twigs terete; fruit 10 mm. in diameter; seeds 2-3, about 6 mm. long. **V. aestivalis.**
Twigs angular ;fruit 6-8 mm. in diameter; seeds 1-2, about 4 mm. long. **1. V. cinerea.**
Leaves glabrate or slightly pubescent beneath when young.
Leaves mostly 3-7 lobed, fruit 8-10 mm. in diameter, ripening in summer, seeds 2-4. **2. V. vulpina.**
Leaves sometimes slightly 3-lobed; fruit 6 mm. in diameter, ripening after frost; seeds 1-2. **3. V. cordifolia.**

Vitis aestivalis Michx. **Summer Grape.**
Occurs in northeastern Kansas and probably in southeastern Nebraska.
1. Vitis cinerea Engelm.
Along the Missouri in the southeastern part of the state. Peru.
2. Vitis vulpina L. **Early Wild Grape.**
Common along streams throughout the state. Anselmo; Indianola; Nebraska City; Newcastle; Peru; Pine Ridge; Plummer Ford; Tecumseh; Thedford; Valentine.

3. Vitis cordifolia Michx. **Frost or Chicken Grape.**
May occur in the southeastern part of the state.

2. Ampelopsis. 615.

1. Ampelopsis cordata Michx.
Along the Missouri in the southeastern part of the state. Peru; Nemaha.

3. Parthenocissus. 616.

1. Parthenocissus quinquifolia (L.) Planch. **Virginia Creeper.**
Psedera quinquifolia (L.) Greene.
In woods and thickets, mostly along streams, throughout the state. Banner County; Nattick; Pine Ridge; Valentine.

3. CELESTRACEAE.

Shrubs with opposite leaves. **1. Euonymus.**
Climbing vines with alternate leaves. **2. Celastrus.**

1. Euonymus. 605.

1. Euonymus atropurpurea Jacq. **Burning Bush.**
Rather common in the southeastern part of the state and extending along the Niobrara as far as west Pine Ridge . Crete; Lincoln; Long Pine; Pine Ridge; St. James; Wahoo.

2. Celastrus. 606.

1. Celastrus scandens L. **Climbing Bitter-sweet.**
Common along streams throughout the state. Bellevue; Cushman; Franklin; Kearney; Lincoln; Omaha; Plummer Ford; St. Helena; Wymore ;Valentine.

4. STAPHYLEACEAE.

Staphylea. 606.

1. Staphylea trifoliata L. **Bladder-nut.**
In the southeastern part of the state. Bellevue; Florence; Nebraska City; Peru.

5. ELAEAGNACEAE.

Lepargyraea. 647.

1. Lepargyraea argentea (Nutt.) Greene. **Buffalo Berry.**
On sandy banks, mostly in the northern and western parts of the state. Anselmo; Antelope County; Cedar Creek; Crawford; Franklin; Fremont Island; Kearney; Niobrara; Peru; Ponca; Valentine.

6. SANTALACEAE.

Comandra. 345.

Leaves lanceolate to oblong, eastern plants.
Rootstock underground, stems 1.5-4 dm. high, leaves pale beneath, the midrib prominent beneath. **1. C. umbellata.**

Rootstock superficial, stems 0.5-2.5 dm. high, leaves not pale beneath, obscurely veined. **2. C. richardsiana.**
Leaves, at least those of the branches, linear, western plants. **3. C. pallida.**

1. Comandra umbellata (L.) Nutt. **Toad-flax.**
In the southeastern part of the state. Ft. Robinson; Hooper; Lincoln; Weeping Water; Valentine.

2. Comandra richardsiana Fernald.
Ponca.

3. Comandra pallida A. DC.
In dry soil in the western part of the state. Banner County; Cherry County; Sioux County; Ewing; Thedford; Stratton.

Order SAPINDALES.

Leaves opposite.
Leaves palmately compound. **1. Hippocastanaceae.**
Leaves simple or pinnately compound. **2. Aceraceae.**
Leaves alternate in our species.
Leaves compound in our species.
Flowers in terminal or axillary panicles, fruit a small drupe. **3. Anacardiaceae.**
Staminate flowers in drooping aments, the pistillate solitary or several together, fruit a nut covered with husk. **4. Juglandaceae.**
Leaves simple, the staminate flowers in aments.
Style branches 2, pistillate flowers in aments except in Corylus. **5. Betulaceae.**
Style branches 3 or more, pistillate flowers not in aments subtended by an involucre which becomes a bur or cup in fruit. **6. Fagaceae.**

1. HIPPOCASTANACEAE.

Aesculus. 609.

1. Aesculus glabra Willd. **Ohio Buckeye.**
In the southeastern part of the state.

2. ACERACEAE.

Acer. 607.

Leaves simple.
Leaves 1–1.5 dm. long, silvery white and pubescent beneath, eastern. **1. A. saccharinum.**
Leaves 3–8 cm. long, glabrous on both sides, western. **2. A. glabrum.**
Leaves pinnately compound. **3. A. negundo.**

1. Acer saccharinum L. **Soft Maple.**
Along streams in the southeastern part of the state. Lincoln; Nebraska City; Wymore.

2. Acer glabrum Torr. **Mountain Maple.**
In canons in the northwestern part of the state. Hat Creek Basin; Squaw Canon.

3. Acer negundo L. **Boxelder.**
Common all over the state, mostly along streams. Anselmo; Lincoln; Nebraska City; Norway.

3. ANACARDIACEAE.

Rhus. 602.

Leaves pinnate, leaflets 9 or more.
  Leaflets pinnate or nearly so, rachis wing margined. **1. R. copallina.**
  Leaflets sharply serrate, rachis not winged. **2. R. glabra.**
Leaves trifoliate.
  Leaflets 3-lobed, 1.5–2.5 cm. long, fruit pubescent. **3. R. trilobata.**
  Leaflets mostly entire, 3–10 cm. long, fruit glabrous.
    Vines climbing by aerial roots, or trailing, rarely suberect, fruit about 4 mm. in diameter. **4. R. radicans.**
    Shrubs without aerial roots, fruit 5–6 mm. in diameter. **5. R. rydbergii.**

1. Rhus copallina L. **Dwarf or Black Sumach.**
In the extreme southeastern part of the state. Nemaha; Richardson County; Rulo.

2. Rhus glabra L. **Smooth or Scarlet Sumach.**
Common throughout the state. (Our western forms from Aten, Anselmo, Plummer Ford and Thedford may belong to **Rhus cismontana** Greene.) Anselmo; Aten; Emerald; Fairbury; Lincoln; Nebraska City; Plummer Ford; Thedford.

3. Rhus trilobata Nutt.
Common in the western part of the state. Arapahoe; Belmont; Deuel County; Herrick; Long Pine; Pine Ridge; Thedford; Valentine.

4. Rhus radicans L. **Poison Ivy.**
Common in woods and along fences. Lincoln.

5. Rhus rydbergii Small. **Western Poison Ivy.**
In open woods and prairies. Kearney; Long Pine; Minden; Newcastle; Valentine.

4. JUGLANDACEAE.

Husk not dehiscent, nut rough, leaflets 11-23. **1. Juglans.**
Husk dehiscent, nuts smooth or angled, leaflets (in our species) 3–9. **2. Hicoria.**

1. Juglans. 323.

Fruits globose, twigs and petioles pubesulent, dark brown and rough. **1. J. nigra.**
Fruits elongated, twigs and petioles viscid pubescent, bark gray, smoother. **2. J. cinerea.**

1. Juglans nigra L. **Black Walnut.**
Along streams mostly in the eastern part of the state. Lincoln; Long Pine; Naponee; Nebraska City; Wahoo; Wymore.

2. Juglans cinerea L. **Butter Nut.**
Found sparingly in the southeastern part of the state. Nebraska City; Weeping Water; Wymore.

2. Hicoria. (Carya.) 323.

Bud scales valvate, 4–8, falling soon after the bud opens, fruit 25–35 mm. long, husk thin with wing-like edges. **1. H. minima.**
Bud scales imbricated, 8–12, the inner elongating when the bud opens and tardily deciduous, fruit 35 mm. or more long, not winged.
Husk thick, nuts white or whitish, sweet, middle lobe of the staminate corolla twice as long as the lateral.
Leaflets 5, rarely 7, nut 10–20 mm. long. **2. H. ovata.**
Leaflets 7–9, nut usually larger.
Young foliage pubescent, mature leaves slightly so beneath. **3. H. laciniosa.**
Foliage and twigs persistently tomentose-pubescent, foliage fragrant. **4. H. alba.**
Husk thin, nut brown, bitter, leaflets 3–7; lobes of the staminate corolla about equal. **5. H. glabra.**

1. Hicoria minima (Marsh.) Britton. **Bitter Nut.**
Common along streams in the southeastern part of the state. Cass County; Lincoln; Nebraska City; Platte River; Peru; Wabash; Wymore.

2. Hicoria ovata (Mill.) Britton. **Shell-bark Hickory.**
Along the Missouri in the southeastern part of the state. Nebraska City; Peru; Plattsmouth; Richardson County.

3. Hicoria laciniosa (Michx.) Sarg.
Rare in Richardson County.

4. Hicoria alba (L.) Britton.
Southeastern Nebraska?

5. Hicoria glabra (Mill.) Britton. **Pig-nut.**
Along streams in the southeastern part of the state. Nemaha; Wabash; Weeping Water.

5. BETULACEAE.

Bracts of the staminate aments each with a single flower, nut neither winged or margined.
Trees, pistillate flowers numerous in spike-like aments, nuts small, 4–5 mm. long.
Bracts flat, not enclosing the flower or fruit. **1. Carpinus.**
Bractlets tubular, becoming bladder-like and enclosing the fruit. **2. Ostrya.**
Shrubs, pistillate flowers few, 2-4, in capitate clusters, nuts 12 mm. long or more. **3. Corylus.**
Bracts of the staminate aments with 3-6 flowers each, nut winged or margined, i. e. a samara.
Pistillate aments solitary, apparently axillary, scales thin falling soon after the seeds. **4. Betula.**
Pistillate aments clustered, scales thick, becoming woody, long persistent. **5. Alnus.**

1. Carpinus. 326.

1. Carpinus caroliniana Walter. **Blue Beach.**
Reported from Sarpy County.

2. Ostrya. 327.

1. Ostrya virginiana (Mill.) Willd. **Ironwood, Hop Hornbeam.**
Along streams in the eastern and northern parts of the state. Bellevue; Long Pine; Nebraska City; Ponca; South Bend; Weeping Water.

3. Corylus. 327.

1. Corylus americana Walt. **Hazel-nut.**
Along streams in the eastern part of the state. Fremont; Nebraska City; Omaha; Peru; Weeping Water; Wymore.

4. Betula. 327.

Bark chalky white, leaves dentate or serrulate. **1. B. papyrifera.**
Bark greenish-brown or brown, leaves coarsely serrate. **2. B. fontinalis.**

1. Betula papyrifera Marsh. **Paper or Canoe Birch.**
In the northwestern part of the state, not common. Brown County; Ft. Niobrara; Merriman; Valentine.

2. Betula fontinalis Sarg. **Black Birch.**
Betula occidentalis Hook .
In the northwestern part of the state. Harrison; Hat Creek Basin.

5. Alnus. 329.

1. Alnus incana Willd. **Alder.**
Along the Missouri in eastern Nebraska.

6. FAGACEAE.

Quercus. 332.

Leaves merely toothed, not lobed.
Trees; leaves lanceolate. **1. Q. acuminata.**
Shrubs; leaves ovate or obovate. **2. Q. prinoides.**
Leaves deeply lobed.
Lobes not bristle-tipped; acorns annual, i. e. maturing in one season.
Terminal lobes of the leaf not much larger than the lower; acorn much longer than the shallow cup. **3. Q. alba.**
Terminal lobes of the leaf much larger than the lower; acorn scarcely longer than the cup. **4. Q. macrocarpa.**
Lobes bristle tipped; acorns biennial, i. e. requiring two seasons to mature.
Leaves pinnately lobed.
Sinuses extending about half-way to the mid-rib; the lobes tapering to the apex. **5. Q. rubra.**
Sinuses extending more than half-way to the mid-rib.
Leaves glabrous, very deeply lobed. **6. Q. coccinea.**
Leaves pubescent when young, less deeply lobed. **7. Q. velutina.**
Leaves obovate, 3-5 lobed towards the apex. **8. Q. marylandica.**

1. Quercus acuminata (Michx.) Houda. **Yellow Oak.**
Quercus muhlenbergia Engelm.
Along streams in the southeastern part of the state. Nebraska City; Nehawka; Nemaha; Peru; Richardson County.
2. Quercus prinoides Willd. **Scrub Chestnut Oak.**
Along streams in the southeastern part of the state. Nebraska City; Nemaha; Peru; Richardson County.
3. Quercus alba L. **White Oak.**
In the southeastern part of the state. Richardson County; Weeping Water.
4. Quercus macrocarpa Michx. **Bur Oak.**
Very common along streams in the eastern part of the state. Bellevue; Guide Rock; Lincoln; Nemaha; Ponca; Red Cloud; Valentine.
5. Quercus rubra L. **Red Oak.**
Mostly along the Missouri in the southeastern part of the state. Nebraska City; Nemaha; Weeping Water.
6. Quercus coccinea Wang. **Scarlet Oak.**
Along streams in the eastern part of the state. Peru; Richardson County; South Bend.
7. Quercus velutina Lam. **Black Oak.**
In the southeastern part of the state. Cedar Island; Table Rock
8. Quercus marylandica Muench. **Black-jack.**
Along streams in the southeastern part of the state. Nemaha; Rulo; Table Rock.

UMBELLALES.

Styles 2-5, our species herbs.
Fruit a 2-5 seeded berry. **1. Araliaceae.**
Fruit dry, splitting into 2 mericarps when mature. **2. Umbelliferae.**
Style 1, shrubs or trees. **3. Cornaceae.**

1. ARALLIACEAE.

Leaves alternate, decompound, styles 5, fruit black. **1. Aralia.**
Leaves 3, whorled, 3-7 foliate, styles 2-3, fruit red or yellow. **2. Panax.**

1. Aralia. 667.

Caulescent, leaves several, leaflets cordate. **1. A. racemosa.**
Acaulescent, leaf usually solitary, leaflets rounded or narrowed at the base. **2. A. nudicaulis.**

1. Aralia racemosa L.
In woods along the Missouri. Nemaha; Nebraska City; Peru.
2. Aralia nudicaulis L. **Wild Sarsaparilla.**
In moist woods. Ft. Niobrara; Ponca.

2. Panax. 668.

1. Panax quinquifolium L. **Ginseng.**
In woods along the Missouri. Albright; Bellevue.

2. UMBELLIFERAE.

Leaves simple, flowers in dense capitate clusters, white or blue. **2. Ernygium.**

Leaves, at least some of them, compound.
Fruits bristly, 3-7 mm. long.
Bristly on the wings only, flowers white or pink, with the central one purple. **21. Daucus.**
Bristly all over with hooked bristles. **1. Sanicula.**
Fruits not bristly, sometimes tuberculate.
Fruits not strongly flattened dorsally.
Fruits about 12 mm. long, 2 mm. wide, umbels few-rayed, flowers white. **3. Washingtonia.**
Fruits not over 7 mm. long.
Fruits tuberculate, less than 2 mm. long. **4. Apiastrum.**
Fruits not tuberculate, 2 mm. or more long.
Plants acaulescent, or low and decumbent or ascending less than 3 dm. high.
Fruits not winged, 2-4 mm. long. **5. Musineon.**
Fruits broadly winged, 6 mm. long. **14. Cymopteris.**
Plants with erect leafy stems, 3-20 dm. high.
Fruits not broadly winged.
Length of fruits less than 4 mm., flowers white.
Involucres of numerous bracts.
Fruits 3 mm. long with prominent ribs. **9. Sium.**
Fruits less than 2 mm. long with slender inconspicuous ribs. **10. Berula.**
Involcure of a few small bracts or wanting.
Leaves ternately compound, flowers yellow, fruit nearly 4 mm. long. **6. Zizia.**
Leaves pinnately compound, flowers white, fruits 2-3 mm. long. **7. Cicuta.**
Length of fruits 4-6 mm.
Leaves ternately compound, leaflets broad.
Leaves 3-parted, leaflets often incisd, flowers white. **8. Deringia.**
Leaves once to thrice ternate, leaflets merely serrate, flowers yellow. **6. Zizia.**
Leaves dissected into capillary segments, flowers yellow. **11. Foeniculum.**
Fruit with 7-10 of its ribs broadly winged. **12. Thaspium.**
Fruits strongly flattened dorsally ,carpels usually with marginal wings.
Plants acaulescent or nearly so.
Involucre present, flowers white. **15. Phellopteris.**
Involucre wanting.
Fruits 4-6 (7) mm. long.
Both dorsal and lateral ribs broadly winged, flowers white. **14. Cymopteris.**
Only the lateral ribs winged. **17. Lomatium.**
Fruits 8-12 mm. long, 4 mm. wide, flowers yellow. **18. Cynomarathrum.**
Plants with tall erect leafy stems.
Fruits about 4 mm. long; leaves pinnately decompound; flowers white. **13. Conioselinum.**
Fruits 5-12 mm. long.

Leaves pinnate, flowers yellow.
Leaflets lobed or incised, carpels wing-margined. **19. Pastinaca.**
Leaflets pinnatifid or parted, carpels with thick obtuse margins. **16. Polytaenia.**
Leaves ternate, leaflets very broad, fruit 8-12 mm. long, flowers white. **20. Heracleum.**

1. Sanicula. 672.

Fruit 6 mm. long, petals and anthers greenish-white. **1. S. marylandica.**
Fruit 4 mm. long, or less.
Calyx lobes ovate, styles longer than the bristles, petals yellow. **2. S. gregaria.**
Calyx lobes lanceolate, styles shorter than the bristles, petals white. **3. S. canadensis.**

1. Sanicula marylandica L.
In woods mostly in the eastern part of the state. Harrison; Hastings; Indianola; Nebraska City; Weeping Water.

2. Sanicula gregaria Bicknell.
In woods and thickets mostly in the eastern part of the state. Lincoln; Milford; Nebraska City; Ponca; Walton; Weeping Water.

3. Sanicula canadensis L.
In woods and thickets mostly along streams. Bordeaux; Lincoln; Plummer Ford; Sioux County; Red Cloud.

2. Eryngium. 673.

1. Eryngium aquaticum L.
In wet places in the southeastern part of the state. Nemaha County.

3. Washingtonia. (Osmorhiza.) 675.

Stylopodium and style 0.7-1 mm. long, fruit; not including the pedicel like base; 1-1.3 cm. long. **1. W. claytoni.**
Stylopodium and style 2-4 mm. long, fruit 1.2-1.5 cm. long. **2. W. longistylis.**

1. Washingtonia claytoni (Michx.) Britton.
In woods mostly in the eastern part of the state. Fremont; Nehawka; Nebraska City; Ft. Niobrara; Ponca.

2. Washingtonia longistylis (Torr.) Britton.
In rich woods throughout the state, but most common in the eastern part. Anselmo; Glen; Long Pine; Saltillo; Sioux County; Weeping Water.

4. Apiastrum. (Spermolepis.) 676.

1. Apiastrum patens (Nutt.) Coult. & Rose.
In sandy prairies in the eastern part of the state. Atkinson; Fairbury; Neligh; Oreopolis; Riverton; St. Paul.

5. Musineon. 677.

Stems leafy; branching from the base.
Stems and fruits smooth. 1. M. divaricatum.
Stems and fruits scabrous. 2. M. hookeri.
Acaulescent; fruits about 2 mm. long. 3. M. tenuifolium.

1. Musineon divaricatum (Pursh.) Nutt.
On dry prairies in the western part of the state. Harrison; Whitney.
2. Musineon hookeri (T. & G.) Nutt.
Nebraska according to Britton's Manual.
3. Musineon tenuifolium Nutt.
In dry or rocky soil in the western part of the state; frequently in the bad-lands. Belmont; Harrison; Long Pine; Scotts Bluff County.

6. Zizia. 678.

Common in low meadows in the eastern part of the state. Edgar; Leshara; Ponca; Long Pine; Weeping Water.

7. Cicuta. 679.

Leaflets lanceolate. 1. C. occidentalis.
Leaflets linear, the upper leaves small and bearing bulblets in their axils. 2. C. bulbifera.

1. Cicuta occidentalis Greene. Western Water Hemlock.
Common in wet meadows throughout the state. Cherry County; Hooker County; Kearney; Lincoln; Niobrara; Scotts Bluff; Simeon; Valentine.
2. Cicuta bulbifera L.
In swampy places, not common. Neligh; Simeon; St. Paul; Whitman.

8. Deringia. 679.

1. Deringia canadensis (L.) Kuntze. Honewort.
Cryptotaenia canadensis (L.) DC.
In woods in the eastern part of the state. Cass County; Lincoln; Newcastle; Wahoo; Nemaha.

9. Sium. 680.

1. Sium cicutaefolium Gmel. Water-parsnip.
In wet soil throughout the state. Atkinson; Kennedy; Kearney; Plainview; Whitman.

10. Berula. 681.

1. Berula erecta (Huds.) Coville. Cut-leaved Water-parsnip.
In streams and ponds mostly in the western part of the state. Arcadia; Banner County; Bellevue; Belmont; Broken Bow; Cherry County; Paddock; Pauline; Plummer Ford; Scotts Bluff: Valentine.

11. Foeniculum. 682.

1. Foeniculum foeniculum (L.) Karst. Fennel.
Foeniculum vulgare Hill.
Dorsey; Long Pine.

12. Thaspium. 683.

1. Thaspium barbinode Nutt. **Meadow-parsnip.**
Along streams and in wet meadows in the eastern part of the state. Lincoln; Nebraska City.

13. Conioselium. 684.

1. Conioselium chinense (L.) B. S. P. **Hemlock-parsley.**
In swamps. Blue Hill.

14. Cymopteris. 685.

1. Cymopteris acaulis (Pursh.) Rydb.
In dry soil in the western part of the state. Alliance; Big Springs; Long Pine; McCook; Ft. Robinson; Stratton; Valentine; Whitney.

15. Phellopteris. 685.

1. Phellopteris montana Nutt.
Cymopteris montanus T. & G.
In dry soil in the western part of the state. Alliance; Deuel County; Gordon; Valentine.

16. Polytaenia. 685.

1. Polytaenia nuttallii DC.
In dry soil in the southeastern part of the state. Lincoln.

17. Lomatium. 687.

Bracts of the involucels distinct.
Flowers white or pink. **1. L. orientale.**
Flowers yellow. **2. L.foeniculaceum.**
Bracts of the involucels united, flowers yellow. **3. L. daucifolius.**

1. Lomatium orientale C. & R.
In dry soil in the northern and western parts of the state. Foster; Long Pine; McCook; Valentine; Minden.

2. Lomatium foeniculaceum Nutt.
In dry prairies. Neligh; Rushville.

3. Lomatium daucifolium (Nutt.) C. & R.
In dry soil over most of the state. Fairbury; Humboldt; Lincoln; South Bend.

18. Cynomarathrum. 687.

1. Cynomarathrum nuttallii (A. Gray.) C. & R.
Peucedanum kingii S. Wats.
In dry soil in the western part of the state. Scotts Bluff.

19. Pastinaca. 688.

1. Pastinaca sativa L. **Wild Parsnip.**
Introduced in many places in the state. Grand Island; Long Pine; Mead; Newcastle.

20. Heraclium. 688.

1. Heraclium lanatum Michx. **Cow Parsnips.**
In wet soil along streams. Fremont; Long Pine; Newcastle.

21. Daucus. 688.

1. Daucus carota L. **Wild Carrot.**
Introduced, frequently with alfalfa seed, in various parts of the state. Brunswick; Kearney; Loup City; Nebraska City; Palmer.

3. CORNACEAE.

Cornus. 689.

Fruit light-blue, twigs purple and usually pubescent when young, stone oblique, ridged. **1. C. amomum.**
Fruit white, twigs gray, reddish or if purplish glabrous.
Upper surface of leaves rough, young twigs rough pubescent. **2. C. asperifolia.**
Upper surface of leaves smooth.
Twigs reddish.
Young twigs villose pubescent, stone slightly oblique, longer than broad. **3. C. interior.**
Young twigs sparingly strigose, stone very oblique, broader than long. **4. C. stolonifera.**
Twigs gray, stone subglobose. **5. C. candidissima.**

1. Cornus amomum Mill. **Kinnikinnik.**
In wet soil along streams. Long Pine; Peru; Pishelville.
2. Cornus asperifolia Michx. **Rough Leaved Dogwood.**
In wet soil along streams over most of the state. Auburn; Callaway; Franklin; Lincoln; Minden; Neligh; Walton.
3. Cornus interior (Rydb.)
Dismal River; Cedar Island; St. James; Pine Ridge.
3. Cornus stolonifera Michx. **Red-osier Dogwood.**
Common in wet soil along streams throughout the state. Anselmo; Kearney; Lincoln; Nebraska City; Pine Ridge; Richardson County; Scotts Bluff County; St. James; Thedford; Valentine.
5. Cornus candidissima Marsh.
Kearney; Wahoo.

Subclass INFERAE.

RUBIALES.

Stamens usually 4, calyx and corolla lobes 4, or if 3 fruit didymous. **1. Rubiaceae.**
Stamens usually 5, calyx and corolla lobes 5, or if 3- or 4-lobed the leaves pinnate. **2. Caprifoliaceae.**

1. RUBIACEAE.

Shrubs or small trees, flowers densely capitate. **2. Cephalanthus.**
Herbs, flowers not capitate.
Leaves opposite with small stipules. **1. Houstonia.**

Leaves opposite with large foliaceaus stipules making them appear verticillate. **3. Galium.**

1. Houstonia. 860.

1. Houstonia angustifolia Michx.
In dry soil in the southeastern part of the state. Beatrice; Bellevue; Franklin; Indianola; Odell; Red Cloud; Wymore.

2. Cephalanthus. 682.

1. Cephalanthus occidentalis L. **Button-bush.**
In wet soil along streams in the southeastern part of the state. Auburn; Cedar Creek; West Point.

3. Galium. 864.

Fruits bristly.
Leaves and stipules 6–8 in each whorl.
Stems retrorsely hispid on the angles, fruits 4–6 mm. broad. **1. G. aparine.**
Stems nearly smooth, fruits 3–4 mm. broad. **4. G. triflorum.**
Leaves 4 in each whorl.
Leaves broad, 8-6 mm. wide, fruit 4 mm. wide. **2. G. circaezans.**
Leaves lanceolate, 2-6 mm. wide, fruit 2 mm. wide. **3. G. boreale.**
Fruits smooth.
Leaves 4 in each whorl.
Stems nearly glabrous, leaves 12–25 mm. long. **5. G. tinctorum.**
Stems rough, leaves 5–15 mm. long. **6. G. trifidum.**
Leaves 6 in each whorl. **7. G. concinnum.**

1. Galium aparine L.
A common weed in woods and waste places throughout the state. Endicott; Pauline; Sioux County; Thedford; Valentine.

2. Galium circaezans Michx.
In eastern part of the state. Grand Island; Lincoln; Nemaha; Paddock.

3. Galium boreale L.
In the western part of the state often in dry rock soil. Belmont; Harrison; Pine Ridge; Pumpkin Seed Valley; Wild Cat Mountain.

4. Galium triflorum Michx.
In woods mostly in the eastern part of the state. Belmont; Endicott; Mullen; Neligh; Ponca River; Wabash; Weeping Water.

5. Galium tinctorum L.
In woods and wet meadows in the southeastern part of the state. Newark; Weeping Water.

6. Galium trifidum L. **Small Cleavers.**
In shady woods and wet meadows over most of the state. Boelus; Cherry County; Gage County; Plainview; Ponca; Red Cloud; Thedford; Whitman.

7. Galium concinnum Torr. & Gray.
In woods in the southeastern part of the state. Nemaha; Weeping Water.

2. CAPRIFOLIACEAE.

Leaves pinnately compound. **1. Sambucus.**
Leaves simple.
  Herbs. **3. Triosteum.**
  Shrubs or woody vines.
    Inflorescense not subtended by connate perfoliate leaves.
      Flowers in a terminal umbel-like cyme. **1. Viburnum.**
      Flowers in axillary clusters. **4. Symphoricarpos.**
    Inflorescense in ours subtended by connate-perfoliate leaves. **5. Lonicera.**

1. Sambucus. 869.

1. Sambucus canadensis L. **Elder.**
In moist soils along streams over most of the state. Aten; Kirkwood; Lincoln; Red Cloud; Talmage; Walton; Wymore.

2. Viburnum. 870.

1. Viburnum lentago L. **Nanny-berry, Sheep-berry.**
Along streams in the eastern part of the state. Ashland; Plattsmouth; Table Rock.

3. Triosteum. 872.

1. Triosteum perfoliatum L. **Horse-gentian.**
In low grounds in the eastern part of the state. Crete; Lincoln; Ponca; Plattsmouth; Weeping Water.

4. Symphoricarpos. 873.

Leaves 12–25 mm. long, flowers and fruits mostly solitary in the axils. **1. S. pauciflorus.**
Leaves 25–75 mm. long, flowers and fruits clustered in the axils.
  Style glabrous, corolla 6 mm. long, berry white, 5–6 mm. in diameter. **2. S. occidentalis.**
  Style bearded, corolla 4 mm. long, berry purplish-red, 3–4 mm. long. **3. S. symphoricarpos.**

1. Symphoricarpos pauciflorus (Robbins) Britton. **Low Snowberry.**
In dry rocky soil in the western part of the state. Hat Creek Basin; Ft. Niobrara; Shelton.
2. Symphoricarpos occidentalis Hook. **Wolfberry.**
Common throughout the state. Anselmo; Banner County; Cherry County; Julia; Lincoln; Republican; Sioux County; St. Helena; Thedford; Wahoo.
3. Symphoricarpos symphoricarpos (L.) MacM. **Coral-berry.**
In woods mostly in the eastern part of the state. Anselmo; Cass County; Lincoln; Republican Valley.

5. Lonicera. 874.

Corolla 2-lipped, its tube not much longer than the lobes, gibbous at the base.
  Leaves pubescent beneath, the margins cartilaginous.

1. L. glaucescens.
Leaves glabrous and glaucous beneath, margins not cartilaginous.
2. L. dioica.
Corolla nearly regular, the tube several times as long as the lobes, not gibbous. 3. L. sempervirens.

1. Lonicera glaucescens Rydb.
In woods along streams. Bellevue; Ft. Niobrara.
2. Lonicera dioica L. **Smooth Leaved Honey-suckle.**
In woods along streams in the eastern part of the state. Ashland; Bellevue; Peru; Richardson County.
3. Lonicera sempervirens L. **Trumpet Honey-suckle.**
In woods along the Missouri in Cass County.

CAMPANULALES.

Flowers not in involucrate heads; calyx normal. 1. Campanulaceae.
Flowers in involucrate heads; calyx reduced to scales or bristles. called pappus, or wanting. 2. Asteraceae.

1. CAMPANULACEAE.

Corolla regularly 5-lobed or wanting in some of the flowers anthers separate.
Corolla usually campanulate, present in all of the flowers.
1. Campanula.
Corolla rotate, wanting in most of the flowers. 2. Specularia.
Corolla 2-lipped, split to the base on one side, anthers united.
3. Lobelia.

1. Campanula. 884.

Flowers racemose or paniculate, corolla campanulate.
Corolla usually 15 mm. long or more, the tube several times as long as the lobes. 1. C. petiolata.
Corolla less than 10 mm. long, the lobes about as long as the tube.
2. C. aparinoides.
Flowers spicate, the corolla rotate. 3. C. americana.

1. Campanula petiolata DC. **Bluebells.**
Campanula rotundifolia L.
In moist soil in the western part of the state. Belmont; Dawes County; Carns; Rock County; Scotts Bluff County; War Bonnet Canon; Valentine.
2. Campanula aparinoides Pursh . **Marsh Bellflower.**
In swampy places in the western part of the state. Anselmo; Cherry County; Dukeville; Plummer Ford; Valentine.
3. Campanula americana L. **Tall Bellflower.**
In moist thickets and woods in the eastern part of the state. Crete; Endicott; Holt County; Lincoln; Wahoo; Walton; Valentine.

2. Specularia. 866.

Leaves orbicular or broadly ovate, mostly cordate-clasping.
1. S. perfoliata.

Leaves linear-lanceolate, not clasping. **2. S. leptocarpa.**

1. Specularia perfoliata (L.) A. DC. **Venus' Looking-glass.**
In prairies and dry woods over most of the state. Crete; Box Butte County; Lincoln; Riverton; Thedford; Wahoo; Valentine.
2. Specularia leptocarpa (Nutt.) A. Gray.
In dry soil, not common. Lincoln; Minden.

3. Lobelia. 887.

Flowers scarlet or red, rarely white, 25 mm. or more long. **1. L. cardinalis.**

Flowers blue or white.
Flowers 20 mm. long or more.
Sparingly pubescent, leaves thin; lobes of the larger lip of the corolla obtuse. **2. L. syphilitica.**
Glabrous or nearly so, leaves thick; lobes of the larger lip of the corolla acutish. **2a. L. syphilitica var. ludoviciana.**
Flowers 10 mm. long or less.
Puberulent, stem simple with a single terminal spike, flowers 8-10 mm. long, capsule not inflated. **3. L. spicata.**
Pubescent, stems branched, spikes several flowers 4-6 mm. long, capsule inflated. **4. L. inflata.**

1. Lobelia cardinalis L. **Cardinal-flower.**
In low ground along the Republican River. Franklin.
2. Lobelia syphilitica L.
Common in low ground over most of the state. Alliance; Bellevue; Crawford; Dismal River; Franklin; Kearney; Laurel; La Platte; Weeping Water; Wymore.
2a. Lobelia syphilitica ludoviciana A. DC.
Nebraska according to Britton's Manual.
3. Lobelia spicata Lam. **Pale Lobelia.**
n meadows and in dry soil over most of the state. Broken Bow; Cherry County; Clearwater; Franklin; Wahoo; Whitman.
4. Lobelia inflata L.
Along the Republican River. Franklin.

2. ASTERACEAE. (COMPOSITAE.)

Key to the Tribes.

Flowers all tubular or the marginal ligulate and pistillate or neutral.
Receptacle usually naked or bracted, if bristly rays present.
Involucral bracts green, their tips or margins sometimes scarious.
Flowers some of them perfect or pappus of scales or bristles.
Receptacle naked or rarely bristly; pappus often capillary.
Involucral bracts imbricated in 2-many series.
Rays wanting; flowers all perfect, never bright yellow.
Style-branches filiform-subulate; leaves alternate; pappus never plumose nor heads spicate. **1. Vernonieae.**
Style-branches thickened, obtuse; leaves opposite or if alternate pappus plumose or heads spicate. **2. Eupatorieae.**

Rays present if wanting the flowers bright yellow or the marginal pistillate. **3. Astereae.**
Involucral bracts little if at all imbricated.
Pappus of chaffy scales or wanting. **7. Helenieae.**
Pappus of capillary bristles. **9. Senecioneae.**
Receptacle chaffy; pappus never of capillary bristles. **5. Heliantheae.**
Flowers all staminate or pistillate; rays wanting; pappus wanting or reduced to a mere ring or border. **6. Ambroseae.**
Involucral bracts scarious.
Anthers caudate at the base; pappus usually capillary. **4. Inuleae.**
Anthers not caudate at the base; pappus never capillary. **8. Anthemideae.**
Receptacle densely bristly; true rays never present. **10. Cynareae.**
Flowers all ligulate and perfect; plants with milky juice. **11. Chicorieae.**

Tribe 1. VERNONIEAE.

Vernonia. 918.

Leaves lanceolate, pinnately veined.
Involucral bracts with recurved or spreading tips. **1. V. baldwinii.**
Involucral bracts with appressed tips. **2. V. fasciculata.**
Leaves linear, one nerved. **3. V. marginata.**

1. Veronica baldwinii Torr. **Western Ironweed.**
A common weed in dry soil. Arcadia; Bertrand; Callaway; Minden; Red Cloud; Weeping Water.

2. Vernonia fasciculata Michx. **Western Ironweed.**
A common weed especially in low pastures. Bellevue; Culbertson; Grand Island; Grand Rapids; Laurel; Lincoln; Minden; Nemaha; Red Cloud; Wahoo; Valentine.

3. Vernonia marginata (Torr.) Britton.
Vernonia jamesii T. & G.
In dry prairies. Fremont.

Tribe 2. EUPATORIEAE.

Heads in broad cymes or panicles.
Pappus merely scabrous, not plumose.
Leaves usually narrowed at the base, not cordate, achene 5-angled. **1. Eupatorium.**
Leaves broad and cordate at the base, achene 10-ribbed or 10-striate. **2. Coleosanthus.**
Pappus plumose, achenes 8–10 striate. **3. Kuhnia.**
Heads in elongated spikes or racemes, pappus often plumose. **4. Lacinaria.**

1. Eupatorium. 920.

Leaves mostly verticillate in 3's–6's the upper sometimes opposite, flowers mostly pink or purple.
  Inflorescence depressed, flat topped. **1. E. maculatum.**
  Inflorescence pyramidal, the top rounded. **2. E. purpurea.**
Leaves mostly opposite, some of the lower sometimes verticillate, flowers white or blue.
  Leaves perfoliate. **4. E. perfoliatum.**
  Leaves not perfoliate.
    Leaves narrow at the base, gradually tapering to the petiole. **3. E. altissiumum.**
    Leaves broad at the base abruptly narrowed to the petiole sometimes cordate. **5. E. ageratoides.**

1. Eupatorium maculatum L. **Spotted Joe-pye Weed.**
Eupatorium rydbergii Britton.
Moist ground in the eastern part of the state. Burnett; Ft. Niobrara; Nemaha; Valentine.

2. Eupatorium purpureum L. **Joe-pye or Trumpet Weed.**
In moist soil mostly in the eastern part of the state. Bellevue; Dakota County; Dismal River; Long Pine; Paddock; Richardson County; Squaw Canon.

3. Eupatorium altissimum L. **Tall Thoroughwort.**
In dry soil in the eastern part of the state. Crete; Grand Island; Bellevue; Lincoln; Red Cloud; Weeping Water.

4. Eupatorium perfoliatum L. **Common Thoroughwort.**
Common in wet soil over most of the state. Anselmo; Dismal River; Franklin; Endicott; La Platte; Long Pine; Nebraska City; Plainview; Royal; Turkey Creek; Valentine.

5. Eupatorium ageratoides L. f.
Eupatorium urticaefolium Reichard.
In woods in the eastern part of the state. Carns; Crete; Long Pine; Lincoln; Nebraska City.

2. Coleosanthus. 924.

1. Coleosanthus grandiflorus (Hook.) Kuntze.
In the southern and western part of the state. Banner County; Guide Rock; Red Cloud.

3. Kuhnia. 924.

Pubescence minute. leaves sparingly dentate or entire, heads 10 mm. or less high. **1. K. eupatorioides.**
More pubescent, leaves sharply serrate, heads over 10 mm. high. **2. K. glutinosa.**

1. Kuhnia eupatorioides. **False Boneset.**
In dry soil over most of the state. Callaway; Crete; Lincoln; Loup City; Nebraska City.
2. Kuhnia glutinosa Ell.
Kuhnia eupatorioides var. **corymbulosa** T. & G.
In dry soil all over the state. Banner County; Lincoln; Long Pine;

Rock County; Scotts Bluff County; Minden; Thedford; Whitman; Valentine.

4. Laciniaria. (Liatris.) 925.

Involucral bracts acute.
Heads 16–60 flowered.
Bracts with spreading tips; heads broad. **1. L. squarrosa.**
Bracts more erect; heads narrow.
1a. L. squarrosa var. **intermedia.**
Heads 4–6 flowered.
1.5–8 dm. high, bracts appressed, pappus vary plumose.
2. L. punctata.
5–15 dm. high, bracts with spreading tips, pappus scarcely plumose. **3. L. pycnostachya.**
Involucral bracts obtuse.
Heads 15–45 flowered, usually peduncled. **4. L. scariosa.**
Heads 5–13 flowered, mostly sessile. **5. L. spicata.**

1. Lacinaria squarrosa (L.) Hill. **Blazing Star.**
Common in prairies all over the state. Anselmo; Dismal River; Laurel; Long Pine; Nebraska City; Talmage; Valentine.

1a. Lacinaria squarrosa var. **intermedia** (Lindl.) Porter.
Indianola; Pishelville; Plummer Ford.
2. Lacinaria punctata (Hook.) Kuntze.
Common in dry soil over most of the state. Ayr; Bellevue; Carns; Deuel County; Hat Creek Basin; Laurel; Lincoln; Plummer Ford; Valentine; Whitman; Wymore.
3. Lacinaria pycnoctachya (Michx.) Kuntze.
In meadows in the eastern part of the state. Lincoln; Nebraska City.
4. Lacinaria scariosa (L.) Hill.
In dry prairies in the eastern part of the state. Crete; Laurel; Long Pine; Nebraska City; St. Paul.
5. Lacinaria spicata (L.) Kuntze.
In bottoms and low prairies throughout most of the state. Atkinson; Benkleman; Carns; Kearney; Scotts Bluff; Valentine.

Tribe. 3. ASTEREAE.

Ray flowers, when present, yellow.
Pappus of scales or awns, sometimes deciduous, never of numerous capillary bristles.
Heads small not over 4 mm. high, few flowered. **1. Gutierrezia.**
Heads large, many flowered, involucre viscid. **2. Grindelia.**
Pappus at least in part of numerous capillary bristles.
Pappus double, the inner of capillary bristles, the outer much shorter of scales or bristles, heads large, leaves neither evergreen nor spinulose-dentate. **3. Chrysopsis.**
Pappus wholly or capillary bristles, heads small or leaves evergreen or spinulose-dentate.
Heads discoid. (See also **Branchyactis** and **Leptilon.**)
Bracts imbricated in several series. **4. Chrysothamnus.**
Bracts little imbricated mostly in one series. **15. Erigeron**

Heads radiate.
Leaves spinulose-dentate. **5. Sideranthus.**
Leaves entire or toothed, not spiuplose-dentate.
Stem low, woody, leaves evergreen. **6. Stenotus.**
Stem entirely herbaceous, leaves not evergreen.
Rays not more numerous than the diskflowers, leaves mostly lanceolate, rarely linear-lanceolate. **7. Solidago.**
Rays more numerous than the diskflowers, leaves linear-lanceolate. **8. Euthamia.**
Ray flowers blue, pink, purple or white, never yellow.
Pappus a mere crown of a few scales or awn-like bristles.
Plants low, not even 2 dm. high. **9. Townsendia.**
Plants tall, erect, 6 dm. or more high. **10. Boltonia.**
Pappus of numerous capillary bristles.
Rays, slightly, if at all exceeding the pappus.
Heads 8-12 mm. broad, bracts in 2-3 series. **13. Brachyactis.**
Heads about 4 mm. broad, bracts in 1-2 series. **16. Leptilon.**
Rays conspicuous, longer than the pappus, usually equaling or exceeding the diameter of the disk.
Bracts in several series, the outer shorter, usually well imbricated.
Disk-flowers yellow turning red, brown or purple.
Leaves entire or serrate, the teeth not bristle tipped. **11. Aster.**
Leaves lobed or incised-dentate, the lobes bristle tipped. **14. Machaeranthera.**
Disk-flowers permanently white. **12. Leucelene.**
Bracts in 1-2 series, little imbricated, rays numerous 20-150. **15. Erigeron.**

1. Gutierrezia. 927.

1. Guterrezia sarothrae (Pursh.) Britton & Rusby.
In dry or rocky soil in the western part of the state. Banner County; Belmont; Callaway; Deuel County; Ft. Niobrara; Hat Creek Basin; Pine Ridge; Scotts Bluff County; Valentine.

2. Grindenia. 928.

1. Grindelia squarrosa (Pursh.) Dunal. **Gum-weed.**
In dry soil over most of the state. Ainsworth; Callaway; Lincoln; Nebraska City; Minden; Scotts Bluff County; Thedford; Rushville; Wahoo.

3. Chrysopsis. 929.

Leaves appressed canescent, plants 3-6 dm. high. **1. C. villosa.**
Leaves hispid or hirsute with a spreading pubescence, plants rarely over 3 dm. high.
Leaves copiously hairy, only slightly viscid.
Leaves mostly subsessile, heads peduncled, stems 2-3 dm. high. **3. C. horrida.**

Leaves mostly petioled, stems 1-2 dm. high, heads sessile. **4. C. pumila.**
Leaves sparingly hairy, decidedly viscid. **5. C. hispida.**

1. Chrysopsis villosa (Pursh.) Nutt.
In dry soil in the western part of the state. Belmont; Deuel County; Grand Rapids; Kiwa Valley; Meadville; Mullen; Whitman; Valentine.

2. Chrysopsis stenophylla (A. Gray.) Greene.
Nebraska according to Britton's Manual.

3. Chrysopsis horrida Rydb.
In dry soil in the western part of the state. Pumpkin Seed Valley; Lawrence Fork.

4. Chrysopsis pumila Greene.
Nebraska according to Rydberg's Flora of Colorado.

5. Chrysopsis hispida (Hook.) Nutt.
In dry soil in the western part of the state. Deuel County; Long Pine; Riverton.

4. Chrysothamus. 931.

Involucral bracts not acuminate, heads 12 mm. high, leaves 2-4 mm. wide. **1. C. graveolens.**
Involucral bracts subulate tipped, heads 14-20 mm. long, leaves about 2 mm. wide. **2. C. howardi.**

1. Chrysothamus graveolens (Nutt.) Greene.
On "badlands" and dry hills in the western part of the state. Chadron; Hat Creek Basin; Scotts Bluff.

2. Chrysothamus howardi (Parry.) Greene.
In canons south of Scotts Bluff.

5. Sideranthus. 932.

Leaves spinescently toothed, not pinnatifid.
Rays wanting, perennial with woody caudex. **1. S. grindelioides.**
Rays present, annual. **2. S. annuus.**
Leaves pinnatifid. **3. S. spinulosus.**

1. Sideranthus grindelioides (Nutt.) Britton.
Eriocarpum grindelioides Nutt.
On dry plains in the western part of the state. Callaway; Banner County; Hat Creek Basin.

3. Sideranthus annuus Rydb.
In dry sandy soil in the western part of the state.

3. Sideranthus spinulosus (Pursh.) Sweet.
Common in dry soil in the western part of the state. Broken Bow; Cambridge; Culbertson; Deuel County; Fairbury; Niobrara; Thedford; Red Cloud; Valentine; Wild Cat Mountains.

6. Stenotus. 933.

1. Stenotus acaulis Nutt.
Nebraska according to Britton's Manual.

7. Solidago. 933.

Inflorescence a panicle or thyrsus; not flat-topped.
Leaves not triple-veined.
Outer involucral bracts with spreading tips. **1. S. petiolaris.**
All the involucral bracts with appressed tips.
Heads not secund on the branches of the inflorescence. **2. S. rigidiuscula.**
Heads secund on the branches of the inflorescence.
Racemes few; leaves coarsely serrate. **3. S. ulmifolia.**
Racemes numerous; leaves crenate-dentate. **8. S. nemoralis.**
Leaves triple-veined i. e. with 2 lateral veins much larger than the rest.
Stems glabrous.
Leaves of the stem lanceolate, sharply serrate. **4. S. serotina.**
Leaves of the stem linear-lanceolate, entire or sparingly serrate with low teeth. **5. S. missouriensis.**
Stem pubescent or scabrous.
Leaves lanceolate.
Plants mostly over 6 dm. high not yellowish.
Leaves sharply serrate, not cinereous-pubescent. **6. S. canadensis.**
Leaves less serrate, sometimes all entire, cinereous-pubescent. **6a. S. can. procera.**
Plants not over 3 dm. high, yellowish canescent, leaves remotely serrate above the middle or entire. **7. S. gilvocanescens.**
Leaves oblong, oblanceolate or spatulate.
Panicle one-sided, its branches recurved or spreading, leaves obscurely 3-veined. **8. S. nemoralis.**
Panicle not one-sided, its branches erect, leaves strongly 3-veined. **9. S. mollis.**
Inflorescence a flat-topped corymbose cyme. **10. S. rigida.**

1. Solidago petiolaris Ait.
Red Cloud.

2. Solidago rigidiuscula (T. & G.) Porter.
On prairies in the southeastern part of the state. Lincoln; Nebraska City; O'Neill.

3. Solidago ulmifolia Muhl.
On river bottoms in the southeastern part of the state. Nemaha; Richardson County.

4. Solidago serotina Ait. **Late Goldenrod.**
Common on prairies all over the state. Dismal River; Ewing; Lincoln; Minden; Nebraska City; Thedford; Valentine; Wymore.

5. Solidago missouriensis Nutt. **Missouri Goldenrod.**
On dry prairies throughout the state. Basset; Banner County; Big Sandy Creek; Cheyenne County; Franklin; Haigler; Hat Creek Basin; Kimball; Kiwa Valley; Lincoln; Nebraska City; Plummer Ford; Thedford; Weeping Water.

6. Solidago canadensis L. **Canada Goldenrod.**
Common on prairies over the entire state. Callaway; Lincoln; Nebraska City; Plum Creek; Red Cloud; Scotts Bluff County; Seward County.

6a. Solidago canadensis procera (Ait.) T. & G.
Kennedy; Long Pine; Bassett; Nebraska City; Thedford; Valentine.
7. Solidago gilvocanescens Rydb.
Cody's Lakes.
8. Solidago nemoralis Ait.
In dry soil in the eastern part of the state. Bellevue; Fairbury; Lancaster County; Long Pine; Nebraska City; Minden; Thedford; Valentine.
9. Solidago mollis Bartl. **Velvety Goldenrod.**
On dry prairies mostly in the western part of the state. Broken Bow; Brunswick; Deuel County; Frankiln; Hat Creek Basin; Kearney; Keya Paha County; Kiwa; Lodge Pole; Lincoln; Minden; O'Neill.
10. Solidago rigida L. **Stiff Goldenrod.**
In dry sandy soil over most of the state. Cody's Lakes; Kearney; Keya Paha County; Lincoln; Nebraska City; Pine Ridge; Wahoo.
Solidago speciosa Nutt. has been found in western Nebraska near Rushville.

8. Euthamia. 942.

1. Euthamia graminifolia (L.) Nutt. **Fragrant Goldenrod.**
Common in wet soil over most of the state. Bone Creek Valley; Cherry County; Lincoln; Thedford

9. Townsendia. 944.

Stems 5-20 cm. high; heads terminal. **1. T. grandiflora.**
Stems very short or wanting; heads sessile among the leaves.
Leaves green, 2.5-5 mm. wide. **2. T. intermedia.**
Leaves 1-2 mm. wide, canescent. **3. T. exscapa.**

1 Townsendia grandiflora Nutt
In dry soil in the western part of the state. Hat Creek Basin; Pine Ridge; Sioux County; War Bonnet Canon.
2. Townsendia intermedia Rydb.
In dry soil in the western part of the state. Deuel County; Foster; Halsey; McCook.
3. Townsendia exscapa (Richards.) Porter.
Western Nebraska.

10. Boltonia. 945.

1. Boltonia asteroides (L.) L'Her.
In low wet places mostly in the eastern part of the state. Hastings; Kearney; Lincoln; Loup City; Minden; Nebraska City.

11. Aster. 946.

Basal, and sometimes also the cauline, leaves both cordate and petioled; no cordate-clasping leaves.
Plants glandular, heads 10-12 mm. high. **1. A. macrophyllus.**
Plants not glandular, heads 5-10 mm. high.
Leaves thick, usually all entire. **2. A. azureus.**
Leaves thinner, serrate.
Involucre 4-6 mm. high, bracts obtuse. **3. A. cordifolius.**
Involucre 6-10 mm. high, bracts acute.

Glabrous or nearly so; involucral bracts awl-pointed. **4. A. sagittifolius.**

Pale with fine gray pubescence; bracts acute. **5. A. drummondii.**

Leaves, if cordate, sessile or nearly so, some of them often cordate-clasping.

Stems hirsute or hispid-pubescent.

Leaves entire.

Rays 40-50, 10-15 mm. long. **6. A. novae-angliae.**

Rays 20-30, 6-10 mm. long. **7. A. oblongifolius.**

Leaves sharply serrate. **8. A. puniceus.**

Stems glabrous or slightly pubescent in streaks.

Leaves densely silvery-white pubescent on both sides. **13. A. sericeus.**

Leaves not silvery pubescent.

Rays blue, violet or purple, rarely white.

Stem leaves, at least the upper, cordate clasping, lanceolate or oblanceolate.

Outer bracts of the involucre shorter than the inner, not foliaceous. **9. A. laevis.**

Outer bracts of the involucre as long as or longer than the inner, foliaceous. **12. A. foliaceus.**

Stem leaves, if clasping, linear or linear-lanceolate.

Rays purple, about 12 mm. long. **15. A. nebraskensis.**

Rays white, violet or purplish, 6-10 mm. long.

Leaves narrowly linear.

Leaves with ciliate margins. **14. A. fendlerii.**

Leaf-margins not ciliate. **18. A. longulus.**

Leaves linear-lanceolate to oblanceolate.

Heads few, leaves entire or nearly so.

Involucral bracts in 3-5 series. **10. A. adscendens.**

Involucral bracts in 1-2 series. **11. A. longifolius.**

Heads numerous, leaves usually serrate.

Disk 1 cm. wide; rays rarely white. **16. A. salicifolius.**

Disk 6-8 mm. wide; rays generally white. **17. A. paniculatus.**

Rays white, 3-8 mm. long. (See also **A. laevis** and **A. longulus**).

Heads 10-25 mm. broad.

Leaves acute or acuminate, often serrate.

Rays 6-8 mm. long; leaves with rough margins.

Disk 1 cm. wide, leaves thickish. **16. A. salicifolius.**

Disk 6-8 mm. wide; leaves thin.

Leaves lanceolate. **17. A. paniculatus.**

Leaves linear. **17a. A. paniculatus var. bellidiflorus.**

Rays 4-6 mm. long. **19. A. tradescantii.**

Leaves obtuse, entire. **23. A. commutatus.**

Heads 6-8 mm. broad, rays 3-4 mm. long.

Bracts, especially the inner, acutish.

Leaves nearly glabrous. **20. A. multiflorus.**

Leaves pubescent and ciliate. **21. A. exiguus.**

Bracts very obtuse. **22. A. polycephalus.**

1. Aster macrophyllus L. **Large-leaved Aster.**
In woods in the southeastern part of the state. Lincoln; Nebraska City.

2. Aster azureus Lindl. **Sky-blue Aster.**
In prairies or open woods in the southeastern part of the state. Weeping Water.

3. Aster cordifolius L. **Blue Wood Aster.**
In woods in the southeastern part of the state. Nebraska City.

4. Aster drummondii Lindl.
Wooded banks in the southeastern part of the state. Weeping Water.

5. Aster sagittifolius Willd.
In dry soil in the southeastern part of the state. Lincoln; Nebraska City.

6. Aster novae-angliae L.
In moist soil in the southeastern part of the state. Burwell; Falls City; Grand Island; Nebraska City; Peru; Valentine.

7. Aster oblongifolius Nutt.
On prairies in the eastern part of the state. Antelope County; Callaway; Lincoln; Minden; Red Cloud; Valentine.

8. Aster puniceus L.
Long Pine; Valentine.

9. Aster laevis L. **Smooth Aster.**
In dry soil over most of the state. Belmont; Cass County; Long Pine; Nebraska City; South Bend; Valentine.

10. Aster adscendens Lindl.
In the western Nebraska according to Britton's Manual.

11. Aster longifolius Lam.
Newark.

12. Aster foliaceus Lindl.
In the western part of the state. Kimball and Scotts Bluff Counties.

13. Aster sericeus Vent.
Prairies in the eastern part of the state. Laurel; Lincoln; Nebraska City.

14. Aster fendleri A. Gray.
Red Cloud.

15. Aster nebraskensis Britton.
In moist soil in the western part of the state. Burwell; Callaway; Long Pine; Minden; Whitman; Valentine.

16. Aster salicifolius Lam.
In moist soil in the southeastern part of the state. Nebraska City; Nemaha; Richardson County.

17. Aster paniculatus Lam.
In moist soil mostly in the eastern part of the state. Kennedy; Lincoln; Nebraska City.

18a. Aster paniculatus bellidiflorus (Willd.) Burgess.
Valentine.

19. Aster tradescanti L.
Minden.

20. Aster multiflorus Ait.
Common on dry prairies over the entire state. Callaway; Garden County; Kearney; Lincoln; Minden; Nebraska City; Neligh; Red Cloud.

21. Aster exiguus (Fernald.) Rydb.
Aster multiflorus exiguus Fernald.
Callaway; Loup City; Red Cloud; Wood River.

22. Aster polycephalus Rydb.
Nebraska according to Rydberg's Flora of Colorado.

23. Aster commutatus Torr & Gray.
On prairies in the western part of the state. Hat Creek Basin; Wood River.

12. Leucelene. 965.

1. Leucelene ericoides (Torr.) Greene.
In dry soil in the western part of the state. Perkins County.

13. Brachyactis. 966.

1. Brachyactis angustus (Lindl.) Britton. **Rayless Aster.**
In wet saline soil. Lincoln.

14. Machaeranthera. 966.

Leaves pinnatifid. **1. M. tanacetifolia.**
Leaves incised dentate. **2. M. sessiliflora.**
1. Machaeranthera tanacetifolia (H. B. K.) Nees.
In dry soil in the western part of the state. Crawford.
2. Machaeranthera sessiliflora (Nutt.) Greene.
In dry soil in the western part of the state. Chadron; Crawford; Hat Creek Basin; Kennedy; Merriman; Valentine.

15. Erigeron. 966.

Roots perennial, thick and woody.
  Lower leaves lanceolate, oblong or spatulate.
    Rays 100-150, violet or purple, stem leaves not linear.
      Upper leaves much smaller than the lower, linear-lanceolate. **1. E. asper.**
      Upper leaves not much smaller than the lower, ovate-lanceolate. **2. E. subtrinervis.**
    Rays 40-60, mostly white, stem leaves linear. **3. E. caespitosus.**
  Leaves all linear, rays 40-80.
    Hispid or hirsute with spreading bristly hairs.
      Rays white. **4. E. pumila.**
      Rays violet or blue, rarely white. **5. E. concinnus.**
    Pubescence appressed, silvery. **6. E. canus.**
Roots fiberous not thick or woody, annual or biennial.
  Rays 100-150.
    Pappus simple, rays pink, plant stoloniferous. **7. E. philidelphicus.**
    Pappus double, the outer very short, plant not stoloniferous. **8. E. divergens.**
  Rays less numerous.
    Low, 1-3 dm. high, leaves linear spatulate. **9. E. bellidiastrum.**
    Taller, basal leaves spatulate or oblong, often serrate.
      Pubescence appressed or sometimes strigose. **10. E. ramosus.**
      Pubescent minute sometimes almost cinerous, plant slender, heads small. **10a. E. ramosus var. beyrichii.**

1. Erigeron asper Nutt.
Nebraska according to Britton's Manual.

2. Erigeron subtrinervis Rydb. **Three-nerved Fleabane.**
Dry soil in the western part of the state. Hat Creek Basin.

3. Erigeron caespitosus Nutt.
In dry soil in the western part of the state. Belmont; Hat Creek Basin.

4. Erigeron pumilus Nutt.
Dry prairies in the western part of the state. Alliance; Box Butte County; Ft. Robinson; Pine Ridge; Sioux County; War Bonnet Canon; Valentine.

5. Erigeron concinnus (H. & A.) T. & G.
In the western part of the state. Hat Creek Basin.

6. Erigeron canus A. Gray.
In dry soil in the western part of the state. Deuel County.

7. Erigeron philadelphicus L.
Common in dry soil in the eastern part of the state. Ashland; Kearney; Nebraska City; Peru; Plainview; Minden; St. Paul; Valentine.

8. Erigeron divergens T. & G.
Banner County.

9. Erigeron bellidiastrum Nutt.
In moist soil in the western part of the state. Crawford; Dismal River; Kennedy; Scotts Bluff; Thedford.

10. Erigeron ramosus (Walt.) B. S. P.
Common in fields over most of the state. Cherry County; Kearney County; Lincoln; Nebraska City; Pine Ridge; Nemaha; Plummer Ford; Red Cloud; Sheridan County.

10a. Erigeron ramosus beyrichii (F. & M.) Smith & Pound.
Cherry County; Kearney; Lincoln; St. James; Valentine.

16. Leptilon. 969.

Tall plants, 7-30 dm. high, rays white. **1. L. canadense.**
Low plants, 1-3 dm. high or less, rays purple. **2. L. divaricatum.**

1. Leptilon canadense (L.) Britton. **Horse-weed.**
A common weed all over the state. Ainsworth; Crete; Dismal River; Lincoln; Long Pine; Nebraska City; Thedford; Wymore.

2. Leptilon divaricatum (Michx.) Raf.
A common weed in dry soil. Ainsworth; Bone Creek; Endicott; Grand Island; Lincoln; Minden; Nebraska City; Plainview; Thedford; St. Paul; Wymore.

Tribe 4. INULEAE.

Pappus none. **1. Filago.**
Pappus of capillary bristles.
Plants dioecious, or polygamo-dioecious, some heads containing only staminate flowers. **2. Antennaria.**
Plants not dioecious, flowers all fertile. **3. Gnaphalium.**

1. Filago. 972.

1. Filago prolifera (Nutt.) Britton.
Western Nebraska.

2. Antennaria. 973.

Heads several, capitate; plants 5 cm. or more high.
  Basal leaves 1-nerved or indistinctly 3-nerved.
    Bracts mostly obtuse, plant 2.5-30 cm. high. **1. A. aprica.**
    Bracts mostly acute.
      Plants about 3 dm. high. **2. A. neodioica.**
      Plants 0.5-1.5 dm. high. **3. A. campestris.**
  Basal leaves distinctly 3-5 nerved. **4. A. plantaginifolia.**
Heads solitary, terminal, plants about 2.5 cm. high. **5. A. dimorpha.**

1. Antennaria aprica Greene.
In dry soil in the western part of the state. Alliance; Callaway; Ft. Robinson; Gordon; Harison; Long Pine; Thedford.

2. Antennaria neodioica Greene.
Burwell; Valentine.

3. Antennaria campestris Rydb.
Common on dry prairies. Burwell; Callaway; Long Pine; Lincoln; Nebraska City; Red Cloud.

4. Antennaria plantaginifolia (L.) Richards.
In dry soil in the eastern part of the state. Fairbury; Falls City; Lincoln; Nebraska City; Riverton; Weeping Water.

5. Antennaria dimorpha (Nutt.) T. & G.
In dry soil in the western part of the state. Chadron; Harrison; Rushville.

3. Gnaphalium. 977.

Tall erect, 3-9 dm. high, inflorescence corymbose. **1. G. obtusifolium.**
Low, diffuse, less than 2 dm. high, inflorescence capitate. **2. G. palustre.**

1. Gnaphalium obtusifolium L.
In dry soil in the southeastern part of the state. Nebraska City.

2. Gnaphalium palustre Nutt.
In wet places in the western part of the state. Grand Rapids.

Tribe 5. HELIANTHEAE.

Involucral bracts in 2 to several series, when only 2 series the inner and outer of similar texture.
  Ray flowers pistillate, producing seeds.
    Achenes of the ray-flowers winged, imbricated in 2-3 rows, disk-flowers perfect but not producing seeds. **1. Silphium.**
    Achenes not winged, disk-flowers producing seeds.
      Rays long, yellow. **2. Heliopsis.**
      Rays short, nearly white. **3. Eclipta.**
  Ray flowers neutral, not producing seeds.
    Rays rose-purple to nearly white, never yellow, achenes not compressed or winged. **6. Braunerla.**
    Rays yellow or if purple the achenes compressed and winged.
      Achenes neither winged nor much compressed.
        Receptacle conic or convex, pappus of very small teeth or none. **4. Rudbeckia.**
        Receptacle flat, conic or convex, pappus of 2 large scales or awns, sometimes with 2-4 smaller ones. **7. Helianthus.**

Achenes compressed and winged.
Receptacle columnar to subulate, leaves divided or parted. **5. Ratibida.**
Receptacle convex or conic, leaves serrate, decurrent on the stem. **8. Verbesina.**
Involucral bracts imbricated in 2 series, the inner membranous, very different from the outer in texture, rays yellow or none.
Inner bracts distinct or slightly united at the base, rays sometimes lacking.
Pappus of 2-5 downwardly barbed awns or teeth, outer bracts often as long or longer than the inner, rays often lacking. **10. Bidens.**
Pappus not downwardly barbed, the outer bracts very small. **9. Coreopsis.**
Inner bracts united to about the middle, the outer much smaller. **11. Thelesperma.**

1. Silphium. 980.

Leaves opposite or the upper alternate.
Stems square, leaves perfoliate. **1. S. perfoliatum.**
Stems round, leaves not perfoliate. **2. S. integrifolium.**
Leaves all alternate, the basal pinnatifid. **3. S. laciniatum.**

1. Silphium perfoliatum L. **Rosin-weed.**
In wet soil in the eastern part of the state. Indianola; Lincoln; Nebraska City; Turner; Wahoo; Walton; Wymore.

2. Silphium integrifolium Michx. **Rosin-weed.**
Common in prairies in the eastern part of the state. Franklin; Lincoln; Nebraska City; Newark; Plainview; Red Cloud; Wahoo; Wymore.

3. Silphium laciniatum L. **Compass-plant.**
Common in low prairies in the eastern part of the state. Foster; Fremont; Lincoln; Nebraska City; Weigand; Wymore.

2. Heliopsis. 984.

1. Heliopsis scabra Dunal. **False Sunflower.**
Common in the eastern part of the state. Arapahoe; Callaway; Grand Island; Nebraska City; Niobrara; Wahoo; Valentine

3. Eclipta. 984.

1. Eclipta alba L.
Along streams in the southeastern part of the state. Crete; Lincoln.

4. Rudbeckia. 985.

Hispid; leaves sparingly serrate or entire. **1. R. hirta.**
Glabrous or nearly so; lower leaves pinnately parted or pinnatifid. **2. R. laciniata.**

1. Rudbeckia hirta L. **Black-eyed Susan.**
A common weed in the eastern part of the state. Aten; Cherry County; Lincoln; New Helena; Nebraska City; Newark; Pine Ridge; Plainview; Plummer Ford; Valentine.

In woods and thickets in the southeastern part of the state. Franklin;

2. Rudbeckia laciniata L. **Cone-flower.**
Lincoln; Nebraska City; Newark; Riverton; Saltillo; Wahoo; Wymore.

5. Ratibida. (Lepachys.) 988.

Disk twice as long as thick, leaf segments lanceolate. **1. R. pinnata.**
Disk 3-4 times as long as thick, rays sometimes brown, leaf segments linear. **2. R. columnaris.**

1. Ratibida pinnata (Vent.) Barnhart. **Cone-flower.**
Bluffs and ravines along streams in the southeastern part of the state. Bellevue; Nebraska City; Nemaha; Peru; Wymore.

2. Ratibida columnaris (Sims.) D. Don. **Prairie Cone-Flower.**
Common in dry soil over most of the state. Anselmo; Aten; Broken Bow; Belmont; Cherry County; Kearney; Lincoln; Mullen; Pine Ridge; Squaw Canon; Valentine.

6. Brauneria. 989.

1. Brauneria pallida (Nutt.) Britton. **Niger-heads.**
Common on dry prairies throughout the state. Aten; Lincoln; Nebraska City; Squaw Canon.

7. Helianthus. 990.

Disk brownish or dark purple, receptacle flat or nearly so.
  Annuals, leaves mostly alternate.
    Leaves serrate, bracts of the involucre broadly ovate to oblong, hispidly ciliate. **1. H. annuus.**
    Leaves entire or nearly so, bracts of the involucre lanceolate or oblong-lanceolate, seldom ciliate. **2. H. petiolaris.**
  Perennials, leaves mostly opposite. **3. H. subrhomboideus.**
Disk yellow, receptacle convex or low conic, perennials.
  Stems glabrous or sometimes pubescent or puberulent above.
    Leaves narrowed at the base, broadest at about the middle. **10. H. grosseserratus.**
    Leaves rounded or truncate at the base, broadest below the middle.
      Leaves sessile or nearly so, divaricate, all opposite. **5. H. divaricatus.**
      Leaves manifestly petioled, ascending, the upper usually alternate. **12. H. decapetalus.**
  Stems pubescent or scabrous at least below.
    Leaves, at least the lower, ovate or ovate-lanceolate and abruptly contracted at the base, sometimes gradually narrowed in **H. tuberosa.**
    All leaves rounded or truncate at the base.
      Leaves entire or nearly so; involucral bracts appressed. **4. H. pumilus.**
      Leaves serrate or serrulate.
        Upper leaves alternate. **9. H. rydbergii.**
        All the leaves opposite. **11. H. hirsutus** var. **trachyphyllus.**
    Upper leaves narrowed at the base.

Leaves green on both sides. **13. H. tuberosus.**
Leaves densely white-canescent beneath.
13a. H. tuberosus var. **subcanescens.**
Leaves narrowly lanceolate, gradually narrowed at the base.
Stems scabrous; leaves very scabrous on both sides, entire or denticulate. **7. H. maximiliani.**
Stems hirsute; leaves scabrous above, hirsute beneath, serrate or denticulate.
Leaves mostly alternate, narrowly lanceolate. **6. H. giganteus.**
Leaves mostly, or all opposite, broader and more sharply serrate. **8. H. subtuberosus.**

1. Helianthus annuus L. **Common Sunflower.**
Helianthus lenticularis Dougl.
A common weed throughout the state. Dismal River; Lincoln; Minden; Nebraska City; Valentine.

2. Helianthus petiolaris Nutt. **Prairie Sunflower.**
Common in dry sandy soil over the whole state, often as a weed in cultivated ground. Box Butte County; Chelsea; Minden; Mullen; Plattsmouth; Thedford; Wahoo; Whitman.

3. Helianthus subrhomboideus Rydb.
Helianthus scaberrimus Ell.
Common in prairies over most of the state. Cherry County; Franklin; Keya Paha County; Minden; Sioux County; Whitman.

4. Helianthus pumilus Nutt.
Nebraska according to Nelson's Manual of Rocky Mountain Botany.

5. Helianthus divaricatus L.
Callaway.

6. Helianthus giganteus L.
In wet soil mostly in draws and along streams and ditches. Halsey; Thedford; Valentine.

7. Helianthus maximiliani Schrad.
Common in prairies throughout the state. Bone Creek; Franklin; Kearney; Lincoln; Minden; Nebraska City; Red Cloud; Valentine.

8. Helianthus subtuberosus Bourgeau.
Ainsworth; Atkinson; Long Pine; Valentine; Red Cloud.

9. Helianthus rydbergii Britton.
In the sand-hill regions. Hooker County.

10. Helianthus grosseserratus Martens.
In moist soil in the eastern part of the state. Callaway; Crete; Lincoln; Mullen; Newark; Nebraska City; Plainview; Wahoo.

11. Helianthus hirsutus trachyphyllus T. & G.
In the southeastern part of the state. Bellevue; Nebraska City.

12. Helianthus decapetalus L.
Crete; Nemaha; Newark; Valentine; Weeping Water.

13. Helianthus tuberosus L. **Jerusalem Artichoke.**
In moist soil along streams. Often cultivated for its tubers and often persists as a weed. Ewing; Franklin; Long Pine; Nebraska City; Republican.

13o. Helianthus tuberosus subcanescens A. Gray.
Callaway; Chadron.

8. Verbesina. 996.

1. Verbesina alternifolia (L.) Britton.
Common in woods in the eastern part of the state. Lincoln; Nebraska City.

9. Coreopsis. 997.

Rays yellow with brown bases or entirely brown, leaves pinnately parted. **1. C. tinctoria.**
Rays entirely yellow, leaves not pinnately parted.
Leaves three-lobed to below the middle, lobes oblong-linear. **2. C. palmata.**
Leaves three-divided nearly or quite to the base, lobes filiform-linear. **3. C. verticillata.**

1. Coreopsis tinctoria Nutt. **Tickseed.**
A common weed in waste places throughout most of the state. Atkinson; Fairbury; Fillmore County; Franklin; Lincoln; Minden; Red Cloud; Spencer.

2. Coreopsis palmata Nutt.
In woods and prairies in the southeastern part of the state. Elmwood; Nebraska City; Richardson County; Talmage; Nemaha.

3. Coreopsis verticillata L.
Nebraska according to Britton's Manual.

10. Bidens. 1000.

Leaves lanceolate, serrate, not pinnately parted or dissected.
Heads nodding after flowering. **2. B. cernua.**
Heads remaining erect.
Rays large, commonly 25 mm. long or more. **1. B. laevis.**
Rays small or wanting **3. B. comosa.**
Leaves, at least some of them, pinnately parted or dissected.
Rays small or wanting.
Achenes flat, awns 2, nearly as long as the achene. **4. B. frondosa.**
Achenes linear, awns 4, achene several times as long as its awns. **5. B. bipinnata.**
Rays large and conspicuous.
Achene cuniate or linear-cuniate, less than 2 mm. wide, 5-7 mm. long. **6. B. trichosperma.**
Achenes 2-4 mm. wide with thin scarious margins.
Outer bracts 8-10, not longer than the inner, smooth or ciliate. **7. B. aristosa.**
Outer bracts 12-20, longer than the inner, coarsely hispid. **8. B. involucrata.**

1. Bidens laevis (L.) B. S. P.
In meadows and along streams. Ainsworth; Banner County; Grand Island; Lawrence Fork; Lincoln; Mullen; Nebraska City; Roca.

2. Bidens cernua L.
Common in wet soil throughout the state. Callaway; Ewing; Greeley; Lincoln; Newark; Roca.

3. Bidens comosa (A. Gray.) Weigand.
In moist soil in the eastern part of the state. Black Island; Julesburg; Keya Paha; Nebraska City; Newark.

4. Bidens frondosa L.
Common in wet soil over most of the state. Red Cloud; Kearney; Kennedy; Lincoln; Nebraska City; Thedford; Valentine.

5. Bidens bipinnata L.
Nebraska according to Britton's Manual.

6. Bidens trichosperma (Michx. Britton.
Common in wet soil over most of the state. Black Island; Keya Paha; Long Pine; Royal; Thedford.

7. Bidens aristosa (Michx.) Britton.
Long Pine; Nebraska City; Valentine.

8. Bidens involucrata (Nutt.) Britton.
In wet soil. Endicott; Falls City; Nemaha.

11. Thelesperma. 1003.

Rays large, pappus scales not much longer than the width of the achene.
Leaves not rigid, their segments filiform. **1. T. trifidum.**
Leaves rigid, their segments linear or filiform, perennial. **2. T. intermedium.**
Rays small or wanting, pappus awns longer than the width of achene. **3. T. gracile.**

1. Thelesperma trifidum (Poir.) Britton.
In dry soil in the western part of the state. Box Butte County; Crawford; Long Pine.

2. Thelesperma intermedium Rydb.
In dry soil in the western part of the state. Alliance; Crawford.

3. Thelesperma gracile (Torr.) A. Gray.
In dry soil, common in the western part of the state. Cherry County; Dismal River; Franklin; Kearney; Red Cloud; Shelton; Thedford; Valentine.

Tribe 9. AMBROSIAE.

Staminate and pistillate flowers in the same heads, the pistillate marginal. **1. Iva.**
Staminate and pistillate flowers in separate heads, the pistillate 1-4 in a nut-like or bur-like involucre.
Involucre of the staminate heads of united bracts, that of the pistillate never with hooked bristles.
Pistillate involucre 1-flowered, usually armed with 4-8 tubercles or spines in a single series. **2. Ambrosia.**
Pistillate involucre with 1-4 flowers, armed with several to numerous prickles in more than one series. **3. Gaertneria.**
Involucre of the staminate heads of separate bracts; that of the pistillate heads 2-flowered, covered with numerous hooked bristles. **4. Xanthium.**

1. Iva. 908.

Heads in the axils of leaves or bracts.
  Perennials, leaves entire or nearly so. **1. I. axillaris.**
  Annuals, leaves coarsely serrate. **2. I. ciliata.**
Heads not in the axils of leaves or bracts. **3. I. xanthifolia.**

1. Iva axillaris Pursh.
In alkaline soil in the western part of the state. Scotts Bluff County.

2. Iva ciliata Willd.
In moist soil in waste places in the southeastern part of the state. Lincoln; Minden; Red Cloud; Republican.

3. Iva xanthifolia (Fresen.) Nutt.
In wet soil and waste places throughout the state. Bellevue; Lincoln; Nebraska City; Plainview; Meadville; Red Cloud; Thedford; Whitman; Valentine.

2. Ambrosia. 910.

Leaves palmately 3-5 lobed or undivided, all opposite.
  Leaves 3-5 lobed. **1. A. trifida.**
  Leaves not lobed. **1a. A. trifida var. integrifolia.**
Leaves 1-2-pinnatifid, the upper alternate.
  Annuals; fruiting involucre ending in a beak surmounted by 4-6 spines. **2. Afl artemisiaefolia.**
  Perennials by creeping root-stocks, fruiting involucre ending in a sharp point; surrounded by about 4 tubercles or unarmed. **3. A. psilostachya.**

1. Ambrosia trifida L.
A common weed in moist soil over most of the state. Holt County; Lincoln; Nebraska City; Wahoo; Wymore.

1a. Ambrosia trifida var. **intergrifolia** (Muhl.) T. & G.
Cody's Lakes; Lincoln; Nebraska City; Wahoo.

2. Ambrosia artemisiaefolia L. **Ragweed.**
Common as a weed in dry soil throughout the state. Long Pine; Minden; Valentine.

3. Ambrosia psilostachya DC. **Ragweed.**
A common weed in dry soil all over the state. Often abundant in dry pastures. Alliance; Dismal River; Lincoln; Nebraska City; Valentine; Whitman.

3. Gaertneria. 911.

Leaves not densely white tomentose beneath, annuals. **1. G. acanthicarpa.**

Leaves densely white-tomentose beneath, perennials.
  Leaves bipinnatifid, terminal segment not larger than the lateral. **2. G. discolor.**
  Leaves pinnately divided, terminal segment much larger than the lateral. **3. G. tomentosa.**

1. Gaertneria acanthicarpa (Hook.) Britton.
In moist soil in the western part of the state. Crawford; Merriman; Porter.

2. Gaertneria discolor (Nutt.) Kuntze.
In dry soil in the western part of the state. Dix.
3. Gaertneria tomentosa (A. Gray.) Kuntze.
In low prairies along streams. Axtell; Franklin; Hastings; Minden.

4. Xanthium. 911.

Burs nearly glabrous, beaks straight. **1. X. glabratum.**
Burs not glabrous, beaks hooked or incurved.
  Burs 15-25 mm. long, about half as thick or less.
    Prickles not hispid or scarcely so. **2. X. canadense.**
    Prickles hispid to about the middle. **3. X. commune.**
  Burs 10-15 mm. long, 6-9 thick, its prickles bristly-hispid nearly to the hooked apex. **4. X. glanduliferum.**

1. Xanthium glabratum (DC.) Britton.
Nebraska according to Britton's Manual.

2. Xanthium canadensis Mill. **Cocklebur.**
Not common, most of our cockleburs belong to the next species. Kennedy; Red Cloud; Valentine.

3. Xanthium commune Britton. **Common Cocklebur.**
A common weed all over the state. Grand Island; Lincoln; Red Cloud; St. Paul; Valentine; Wahoo.

4. Xanthium glanduliferum Greene. **Glandular Clot-bur.**
Fremont; Long Pine; Nebraska City; Red Cloud; Whitman.

Tribe 7. HELENIEAE.

Bracts of the involucre petaloid with scarious tips and margins.
  Leaves pinnatifid, flowers white or yellow, rays none. **1. Hymenopappus.**
  Leaves entire, flowers purple, rays present or wanting. **2. Polypteris.**
Bracts of the involucre herbaceous.
  Leaves palmately divided into 2-5 narrow segments. **3. Picradeniopsis.**
  Leaves not palmately divided.
    Foliage not dotted with oil-glands.
      Receptacle naked, rays yellow.
        Bracts of the involucre appressed, leaves not decurrent on the stem. **4. Tetraneuris.**
        Bracts of the involucre spreading or reflexed at maturity, leaves usually decurrent on the stem. **5. Helenium.**
      Receptacle bristly, rays in our species purple at least at the base. **6. Gaillardia.**
    Foliage dotted with oil-glands.
      Leaves dissected, involucral bracts partly united. **7. Boebera.**
      Leaves entire, linear, bracts separate. **8. Pectis.**

1. Hymenopappus. 1006.

Corolla white, heads 8-12 mm. broad, biennials.
  Achene puberulent, pappus shorter than the width of the achene. **1. H. corymbosus.**

Achene densely villous, pappus as long as the width of the achene. **2. H. tenuifolius.**
Corolla yellow, heads 12-25 mm. broad; perennials. **3. H. filifolius.**

1. Hymenopappus corymbosus T. & G.
Nebraska according to Britton's Manual.

2. Hymenopappus tenuifolius Pursh.
Common in sandy soil. Anselmo; Dismal River; Foster; Franklin; Phelps County; Valentine.

3. Hymenopappus filifolius Hook.
Common in dry sandy prairies. Broken Bow; Box Butte County; Deuel County; Cedar County; Merriman; Mullen; Pine Ridge; Sioux County; Thedford.

2. Polypteris. 1007.

1. Polypteris hookeriana (T. & G.) A. Gray.
On dry prairies in the western part of the state. Hat Creek Basin; Lincoln; Whitney; Royal.

3. Pricideniopsis. 1008.

1. Pricideniopsis oppositifolia (Nutt.) Rydb.
Whitney.

4. Tetraneuris. (Picradenia.) 1008.

Leaves with narrowly linear blades, 1-2 mm. wide, involucre 10-13 mm. wide. **1.T. stenophylia.**
Leaves linear or linear-lanceolate 2-6 mm. wide, involucre 15-35 mm. wide.
Scapes few, leaves 4-7 cm. long. **2. T. simplex.**
Scapes tufted, leaves 3-5 cm. long. **3. T. acaulis.**

1. Tetraneuris stenophylla Rydb.
In dry soil in the western part of the state. Franklin.

2. Tetraneuris simplex A. Nelson.
Western Nebraska according to Britton's Manual.

3. Tetraneuris acaulis (Nutt.) Greene.
In dry soil in the western part of the state. Alliance; Belmont; Banner County; Harrison; Scotts Bluff; Sioux County.

5. Helenium. 1010.

1. Helenium autumnale L. **Sneeze-weed.**
In wet meadows and along streams and ditches. Bellevue; Dismal River; Ft. Kearney; Plainview; Newark; Plattsmouth; Scotts Bluff County; Valentine.

6. Gaillardia. 1011.

1. Gaillardia pulchella Foug.
In dry soil in the western part of the state. Franklin; Lincoln; Red Cloud; Riverton.

7. Boebera. 1012.

1. Boebera papposa (Vent.) Rydb. **Fetid Marigold.**
Common all over the state. Brock; Franklin; Grand Rapids; Lincoln; Minden; Nebraska City; Plainview; Red Cloud; Scotts Bluff County; Valentine; Wymore.

8. Pectis. 1012.

1. Pectis angustifolia Torr.
In dry soil in the western part of the state. Deuel County; Ft. Niobrara.

Tribe 8. ANTHEMIDEAE.

Rays usually present, white or pink; receptacle chaffy.
  Achenes flattened, heads small. **1. Achillea.**
  Achenes terete, heads larpe 25 cm. or more broad. **2. Anthemis.**
Rays wanting or rudimentary, receptacle not chaffy.
  Heads corymbed, pappus a short crown. **Tanacetum.**
  Heads racemose, spicate or panicled, pappus none. **4. Artemisia.**

1. Achillea. 1013.

1. Achillea millifolium L. **Yarrow, Milfoil.**
A common weed in the eastern part of the state. Fairbury; Hat Creek Basin; Lincoln; Nebraska City; Ponca; Red Cloud.

2. Anthemis. 1014.

1. Anthemis cotula L. **Fetid camomile.**
Common in waste places in the eastern part of the state. Brown County; Lincoln; Nebraska City; St. Paul.

4. Artemisia. 1017.

Marginal flowers pistillate, central flowers perfect, mostly herbs.
  Central flowers sterile, not producing seeds, mostly with entire styles.
    Herbs, sometimes woody at the base, heads 2-4 mm. broad.
      Leaves pinnately dissected into narrow linear lobes.
        Heads 2 mm. broad, in a broad panicle. **1. A. caudata.**
        Heads 4 mm. broad, in a narrow panicle. **2. A. canadensis.**
      Leaves linear, mostly entire, sometimes 3-cleft or the lower more divided.
        Leaves glabrous. **3. A. dracunculoides.**
        Leaves finely and densely pubescent. **4. A. glauca.**
    Shrubs, heads small, numerous, about 1 mm. broad. **5. A. filfolia.**
  Central flowers fertile, producing seeds, their styles 2-cleft.
    Receptacle with long woolly hairs.
      Plants 2-3 dm. high, leaf segments linear-filiform, less than 1 mm. wide. **6. A. frigida.**
      Plants 6-12 dm. high, leaf segments oblong or linear-oblong, over 1 mm. broad. **7. A. absinthium.**
    Receptacle glabrous, or slightly pubescent.

Leaves green, glabrous or pubescent, dissected.
Heads 4 mm. broad, perennials. **8. A. abrotanum.**
Heads 2 mm. broad, annuals or biennials.
Heads in a loose panicle, if leafy bracted the bracts exceeded by the branches of the inflorescence. **9. A. annua.**
Heads in axillary clusters forming leafy spikes, the cluster much exceeded by the leaves. **10. A. biennis.**
Leaves densely white canescent or tomentose at least beneath.
Leaves deeply pinnatifid, the segments incised. **11. A. vulgaris.**
Leaves not pinnatifid, lanceolate or linear, rarely 3-5 parted.
Leaves all entire.
Leaves linear, elongated, 5-12 cm. long, at length glabrous above. **A. longifolia.**
Leaves lanceolate, shorter, 5-8 cm. long, tomentose on both sides. **12. A. gnaphaloides.**
Lower leaves lobed. **14. A. ludoviciana.**
Flowers all perfect; all producing seeds; shrubs.
Leaves cuneate, 3-toothed or 3-lobed. **15. A.tridentata.**
Leaves linear, entire. **16. A. cana.**

1. Artemisia caudata Michx. **Wild Wormwood.**
In dry soil in the western part of the state. Grand Island; Long Pine; Riverton.

2. Artemisia canadensis Michx. **Canada Wormwood.**
Common in dry soil in the western part of the state. Banner County; Deuel County; Hat Creek Basin; Long Pine; Minden; Thedford.

3. Artemisia dracunculoides Pursh.
In dry prairies throughout the state. Deuel County; Chadron; Lincoln; Nebraska City; Scribner; Walton.

4. Artemisia glauca Pall.
Ft. Robinson.

5. Artemisia filifolia Torr.
On dry prairies in the western part of the state. Antelope County; Box Butte County; Callaway; Crawford.

6. Artemisia frigida Willd.
Common in dry soil in the western part of the state. Banner County; Belmont; Box Butte County; Hat Creek Basin; Thedford; Long Pine.

7. Artemisia absinthium L. **Common Wormwood.**
Sometimes escapes from gardens. Nebraska City.

8. Artemisia abrotanum L.
Nebraska according to Britton's Manual.

9. Artemisia annua L.
In woods. Riverton.

10. Artemisia biennis Willd.
A common weed in the eastern part of the state. Kennedy; Lincoln; Nebraska City; Wahoo; Whitman; Red Cloud; Valentine.

11. Artemisia vulgaris L. **Common Mugwort.**
Grand Island.

12. Artemisia gnaphaloides Nutt.
Common on dry prairies all over the state. Brown County; Cherry County; Kearney; Kimball; Lincoln; Nebraska City; Thedford.

13. Artemisia pabularis (A. Nels.) Rydb.
Nebraska according to Rydberg's Flora of Colorado.

14. Artemisia ludovicicna Nutt.
St. Paul; Lincoln.

15. Artemisia tridentata Nutt. **Common Sagebrush.**
In dry soil in the northwestern part of the state. Hat Creek Basin; Chadron.

16. Artemisia cana Pursh. **Hoary or Smaller Sagebrush.**
In dry soil in the northwestern part of the state. Alliance; Crawford; Hat Creek Basin; Kiwa Valley; Glen.

Tribe 9. SENECIONEAE.

Leaves opposite, rays yellow. **1. Arnica.**
Leaves alternate.
  Rays none, flowers white or whitish.
    Marginal flowers pistillate, the central ones perfect, plants with a rank smell. **2. Erechtites.**
    All the flowers perfect, sap milky. **3. Mesadenia.**
  Rays present, yellow. **4. Senecio.**

1. Arnica. 1022.

1. Arnica cordifolia Hook.
Nebraska according to Britton's Manual.

2. Erechtites. 1023.

1. Erechtites hieracifolia (L.) Raf.
In the eastern part of the state, not common. Lincoln.

3. Mesadenia. (Cacalia.) 1023.

Glaucous, stem terete, leaves lobed or incised. **1. M. triplicifolia.**
Green, not glaucous, stem striate angled, leaves entire or denticulate, not lobed. **2. M. tuberosa.**

1. Mesadenia atriplicifolia (L.) Raf. **Pale Indian Plantain.**
In woods in the eastern part of the state. Nebraska City; Richardson County.

2. Mesadenia tuberosa (Nutt.) Britton. **Indian Plantain.**
In low prairies in the eastern part of the state. Lincoln; Nebraska City; Wahoo.

4. Senecio. 1024.

Basal leaves neither linear nor parted into linear segments.
  Heads 10-14 mm. high, plant tomentose when young, soon glabrous.
    Involucral bracts acuminate, leaves mostly entire. **1. S. integerrimus.**
    Involucral bracts acute or obtuse, mostly black pointed, leaves denticulate. **2. S. atriapiculatus.**
  Heads 6-10 mm. high, stems often persistently tomentose.
    Basal leaves entire or rarely somewhat ripand, densely and persistently white-tomentose to the inflorescence. **3. S. purshianus.**

Basal leaves, at least some of them, pinnatifid or crenate.
Some of the basal leaves pinnatifid, persistently tomentose.
4. S. planttensis.
Basal leaves crenate, often purple, leaves glabrous or nearly so, stems often woolly, especially below. **5. S. balsamitae.**
Basal leaves linear or parted into linear segments.
Basal leaves linear-cuneate, 4-6 mm. wide, the upper leaves usually laciniate or pinnatifid. **6. S. compactus.**
All the leaves linear or parted into linear segments.
Leaves all linear, entire, 1-3 mm. wide. **7. S. spartioides.**
Leaves, at least some of them, parted into 3-9 linear segments.
8. S. fremontii.

1. Senecio integerrimus Nutt.
Valentine.

2. Senecio atriapiculatus Rydb.
In moist soil in the eastern part of the state. Ainsworth; Lincoln; Ponca; Whitney.

3. Senecio purshianus Nutt.
In dry soil in the western part of the state. Belmont; Freeport; Hat Creek Basin; Pine Ridge; Sidney.

4. Senecio plattensis Nutt.
On prairies throughout the state. Callaway; Dawson; Ewing; Fairbury; Lincoln; Naponee; Plainview.

5. Senecio balsamitae Muhl.
In prairies throughout the state. Emerson; Nebraska City.

6. Senecio compactus (A. Gray.) Rydb.
In dry prairies in the western part of the state. Callaway; Long Pine; Minden; Thedford; Valentine.

7. Senecio spartioides Torr. & Gray.
In dry prairies in the western part of the state.

8. Senecio fremontii (T. & G.) Rydb.
In dry soil in the western part of the state. Callaway; Crawford; Valentine.

Tribe 10. CYNAREAE.

Involucral bracts hooked at the tip, leaves not bristly. **1. Arctium.**
Involucral bracts not hooked at the tip.
Leaves very spiny. **2. Carduus.**
Leaves not spiny. **3. Centaurea.**

1. Actium. 1029.

1. Arctium minus Schk. **Common Burdock.**
Introduced in the eastern part of the state. Crete; Lincoln; Talmage.

2. Carduus. 1030.

Bracts of the involucre, at least the outer, strongly prickly pointed, heads all with perfect flowers over 25 mm. broad.
All the involucral bracts prickly pointed. **1. C. lanceolatus.**
Inner bracts of the involucre merely acuminate or appendaged.
Leaves glabrous, hispid or floccose above, tomentose beneath.

Leaves entire or lobed, the lower sometimes pinnatifid. **2. C. altissimus.**
Leaves deeply pinnatifid into linear or lanceolate segments.
Leaves floccose but green above, strongly spiny. **3. C. flodmanii.**
Leaves glabrous above, weakly spiny. **4. C. discolor.**
Leaves tomentose on both sides, or becoming glabrous above.
Leaves pinnatifid.
Spines of the involucre less than half as long as the bracts.
Flowers pink or purple.
Heads not over 5 cm. broad. **5. C. undulatus.**
Heads larger, 5-8 cm. broad. **5a. C. undulatus var. megacephalus.**
Flowers yellow. **6. C. plattensis.**
Spines of the involucre as long as the bracts, yellow. **7. C. ochrocentrus.**
Leaves entire or undulate. **8. C. nebraskensis.**
Bracts of the involucre not strongly prickly pointed, heads small, not over 25 mm. broad, dioecious.
Leaves very prickly with stiff prickles. **9. C. arvensis.**
Leaves scarcely prickly, prickles not stiff. **9a. C. arvensis var. setosus.**

1. Carduus lanceolatus L. **Common Bur Thistle.**
Introduced in the southeastern part of the state. Nebraska City.

2. Carduus altissimus L. **Tall Thistle.**
Common in fields and along roadsides in the eastern part of the state. Ainsworth; Dismal River; Holt County; Lincoln; Nebraska City; Newark; Valentine.

3. Carduus flodmanii Rydb.
In river bottoms and meadows. Arcadia; Minden; Newark; Antelope County.

4. Carduus discolor (Mihl.) Nutt. **Field Thistle.**
Common over most of the state. Gordon; Grand Island; Scotts Bluff; Red Cloud; Weeping Water.

5. Carduus undulatus Nutt. **White Thistle.**
On plains and prairies throughout the state. Boelus; Deuel County; St. Paul; Squaw Canon; Utica.

5a. Carduus undulatus megacephalus (A. Gray.) Porter.
Ainsworth; Niobrara; Red Cloud.

6. Carduus plattensis Rydb.
In the sand-hills. Glen; Kennedy; Minden; O'Neill; Box Butte County; Paddock; Thedford; Valentine.

7. Carduus ochrocentrus (A. Gray.) Greene.
Callaway; Indianola; Minden; Riverton.

8. Carduus nebraskensis Britton.
In the western part of the state. Scotts Bluff.

9. Carduus arvensis (L.) Robs. **Canada Thistle.**
Introduced in the eastern part of the state. Lincoln; Nebraska City; Omaha; Plainview; St. Paul.

9a. Carduus arvensis var. setosus.
Bethany; College View.

3. Centaurea. 1034.

Bracts fimbriate, not ending in stip spines. **1. C. cyanus.**
Bracts ending in stiff spines. **2. C. solstitialis.**

1. Centaurea cyanus L.
Cultivated and sometimes escapes.

2. Centaurea solstitialis L.
Introduced, but rare. Crete; Davey.

Tribe 11. CICHORIEAE.

Pappus of small scales, much shorter than the achenes, flowers blue or white. **1. Cichorium.**
Pappus of bristles at least as long as the body of the achene.
Stems leafy or with several flowers.
Heads 5-10 flowered, flowers pink or purple.
Lower leaves runcinate pinnatifid. **2. Ptiloria.**
All the leaves entire, the upper often reduced to scales. **8. Lygodesmia.**
Heads many flowered or the flowers yellow.
Achene and pappus 7-8 cm. long. **3. Tragopogon.**
Achene and pappus much shorter.
Flowers blue. **7. Lactuca.**
Flowers yellow, orange or red.
Achenes distinctly beaked. **7. Lactuca.**
Achenes not beaked.
Inflorescence not a spike-like thyrsus, heads usually many flowered.
Achenes flattened; stem leaves auriculate-clasping. **6. Sonchus.**
Achenes terete or prismatic; stem leaves not auriculate-clasping.
Involucral bracts with scarious margins; receptacle slightly bristly. **4. Malacothrix.**
Involucral bracts not scarious margined; receptacle naked.
Pappus soft, white; achenes usually narrowed above. **11. Crepis.**
Pappus of stiff, brown or brownish bristles; achenes not narrowed above. **12. Hieracium.**
Inflorescence in our species a spike-like thyrsus; heads 12-16 flowered. **13. Nabalus.**
Acaulescent plants; scapes 1-flowered.
Leaves mostly entire.
Achenes 8-12 mm. long, scapes smooth, longer than the leaves. **9. Agoseris.**
Achenes about 6 mm. long, scapes tomentose, at least above, equal to or shorter than the leaves. **10. Nothocalais.**
Leaves pinnatifid or sinuate-dentate. **5. Taraxicum.**

1. Cichorium. 890.

Heads sessile in clusters. **1. C. intybus.**

Some of the heads on stout spreading peduncles 2-10 cm. long.
1a. C. intybus divaricatum.

1. Cichorium intybus L. Chicory.
Frequently found in alfalfa fields. Kennedy; Lincoln; O'Neill.
1a. Cichorium intybus var. divaricatum DC.
Brunswick; Lincoln.

2. Ptiloria. (Stephanomeria.) 894.

Pappus plumose to the base, white. 1. P. ramosa.
Pappus merely scabrous at the base, brown. 2. P. pauciflora.

1. Ptiloria ramosa Rydb.
In dry soil in the western part of the state. Scotts Bluff; Sioux County.
2. Ptiloria pauciflora (Torr.) Raf.
Nebraska.

3. Tragopogon. 894.

Flowers yellow. 1. T. pratensis.
Flowers blue. 2. T. porrifolius.

1. Tragopogon pratensis L. Yellow Goat's-beard.
In waste places in various places in the state. Blue Hill; Grand Island; Minden; Ord; Plainview.
2. Tragopogon porrifolius L. Oyster Plant; Salsify.
In wet places. Blue Hill; Lincoln; Minden.

4. Malacothrix. 895.

1. Malacothrix sonchoides (Nutt.) T. & G.
Nebraska according to Britton's Manual.

5. Taraxicum. 896.

Outer bracts reflexed, not glaucous, heads 3-5 cm. broad, achenes brownish green. 1. T. taraxicum.
Bracts spreading or ascending, glaucous, heads not over 2.5 cm. broad, achenes red. 2. T. erythrospermum.

1. Taraxicum taraxicum (L.) Karst. Common Dandelion.
A common weed all over the state, especially in lawns. Crete; Lincoln; Minden; Red Cloud; Wahoo.
2. Taraxicum erythrospermum Andrz. Red-seeded Dandelion.
More recently introduced, but common in many places. Hastings; Lincoln; Minden; Plainview; Red Cloud.

6. Sonchus. 896.

Leaves with acute auricles; achenes transversely wrinkled.
S. oleraceus.
Leaves with rounded auricles; achenes not transversely wrinkled.
1. S. asper.

1. Sonchus asper (L.) All. **Sow-thistle.**
A common weed throughout the state. Central City; Hastings; Hat Creek Basin; Kearney; Lincoln; Nebraska City.

7. Lactuca. 897.

Flowers yellow; beaks of the achenes as long as the body.
Margins of the leaves, and often also the midribs, spiny.
Heads 6-12 flowered, involucre 8-12 mm. high.
Leaves sinuate-pinnatifid. **1. L. scariola.**
Leaves merely irregularly denticulate. **1a. L. scariola var. integrata.**
Heads 12-20 flowered, involucre 10-20 mm. high. **2. L. ludoviciana.**
Margins of the leaves not spiny. **3. L. canadensis.**
Flowers blue or violet; achenes beakless or beak shorter than the body.
Achenes flat; involucre 15-20 mm. high. **4. L. pulchella.**
Achenes thicker slightly compressed, involucre 10-12 mm. high.
Achenes not beaked; leaves not pinnatifid. **5. L. villosa.**
Achenes short beaked; leaves pinnatifid. **6. L. floridana.**

1. Lactuca scariola L.
Red Cloud.

1a. Lactuca scariola integrata Gren. & Godr.
A common weed in the eastern part of the state. Minden; Nebraska City; Red Cloud; Republican.

2. Lactuca ludoviciana (Nutt.) DC. **Western Wild Lettuce.**
A common weed all over the state. Banner County; Cherry County; Franklin; Grand Island; Mullen; Nebraska City; Minden; Pishelville; Plummer Ford.

3. Lactuca canadensis L. **Wild Lettuce.**
A common weed throughout the state. Cherry County; Long Pine; Nebraska City; Pishelville; Plummer Ford; Sioux County; St. Paul.

4. Lactuca pulchella (Pursh.) DC. **Blue Lettuce.**
Throughout the state. Cherry County; Brown County; Lincoln; Mullen; Nebraska City; Niobrara; Sioux County.

5. Lactuca villosa Jacq.
Crawford; Nebraska City; Saltillo.

6. Lactuca floridana (L.) Gaertn.
Reported from Crete.

8. Lygodesmia. 899.

Heads solitary at the ends of the branches, leaves short. **1. L. juncea.**
Heads racemose, leaves elongated linear, the lower 7 cm. or more long. **2. L. rostrata.**

1. Lygodesmia juncea (Pursh.) D. Don.
Common in prairies throughout the state. Anselmo; Cherry County; Freeport; Grand Island; Kearney; Lincoln; Mullen; Minden; Nattick; Sioux County; Valentine.

2. Lygodesmia rostrata A. Gray.
Less common than the last. Kennedy; Long Pine; Minden; Valentine.

9. Agoseris. 900.

Achene 10-12 mm. long, leaves 4-20 mm. wide. **1. A. glauca.**
Achene 8 mm. long, leaves narrowly linear, 2-5 mm. wide. **2. A. parviflora.**

1. Agoseris glauca (Pursh.) Greene.
Nebraska City.
2. Agosteris parviflora (Nutt.) Greene.
In dry soil in the western part of the state.

10. Nothocalais. 900.

1. Nothocalais cuspidata (Pursh.) Greene. **False Dandelion.**
In dry soil over most of the state. Alliance; Crete; Chadron; Deuel County; Ft. Robinson; Lincoln; McCook; Nebraska City; Thedford.

11. Crepis. 901.

Herbage green, not cinereous or scurfy.
  Involucre glabrous, plant glaucous. **1. C. glauca.**
  Involucre pubescent, plants not glaucous.
    Leaves all basal. **2. C. runcinata.**
    Stem leafy. **3. C. tectorum.**
Herbage cinereous-puberulent, or scurfy. **4. C. intermedia.**

1. Crepis glauca (Nutt.) T. & G.
Moist soil in the western part of the state. Rushville.
2. Crepis runcinata (James.) T. & G.
Moist soil in the western part of the state. Callaway; Cheyenne County; Sheridan County; Simeon; Valentine.
3. Crepis tectorum L.
In the foot-hills of the western part of the state. Chadron.
4. Crepis intermedia A. Gray.
Dry soil in the western part of the state. Harrison.

12. Hieracium. 903.

Leaves mostly or all basal, stem glabrous, or nearly so. **1. H. venosum.**
Stem leafy, rarely glabrous.
  Principal bracts in 2-4 series. **2. H. umbellatum.**
  Principal bracts in 1 series.
    Stem hirsute or hispid, achene columnar. **3. H. scabrum.**
    Stem and leaves covered with long brown hair, achenes spindle-shaped. **4. H. longipilum.**

1. Hieracium venosum L.
Nebraska according to Britton's Manual.
2. Hieracium umbellatum L.
Squaw Canon.
3. Hieracium scabrum Michx.
Nebraska according to Britton's Manual.
4. Hieracium longipilum Torr.

In the southeastern part of the state. Edgar; Lincoln; Odell.

13. Nabalus. 906.

1. Nabalus asper (Michx.) T. & G.

On dry prairies over most of the state. Bassett; Brunswick; Lincoln; Loup City; Nebraska City; Neligh; Red Cloud.

APPENDIX

SUGGESTIONS FOR BEGINNERS.

1. The purpose of the keys is to make it possible to determine the name of a plant from its structure. Though the ability to name plants should not be mistaken for a knowledge of botany, it is necessary for one who works with plants to be able to find out their names; and if one collects a plant and finds its name from a key he will learn something of its habitat, structure, life-history and relationship to other plants.

2. The Latin or scientific name of a plant consists usually of two parts, as **Prunus americana** or **Quercus macrocarpa.** The first part is the name of the genus to which the plant belongs, thus **Prunus** includes the plums and cherries and **Quercus** all the oaks. The second part or species name limits it to a single kind of plants, as **Prunus americana** for the common wild plum and **Quercus macrocarpa** for the bur-oak.

3. Sometimes some of the plants in a species differs from others, but the difference is not considered enough to make a new species. They are then considered a variety and this is indicated by adding a third part to the name, as **Cichorium intybus divaricatum.**

4. As different men might apply the same name to different plants and thus lead to a confusion it is customary to add after each name the name, usually abbreviated, of the man who applied it. Sometimes a name is followed by a double citation of authors as Berteroa incana (L.) DC. This means that Linnaeus first described the plant and gave it its species name, incana, but put it in the genus Alyssum, and DeCandole transferre dit to the genus Berteroa.

5. Except for a few common plants the common or English names are almost worthless as the same name will be applied to different plants in different places and the same plant will be known by several names even in the same locality. Most of our native plants have no common names.

6. Genera are united into larger groups called families. The names of families are usually formed by adding the ending **aceae** to the name of one of its genera, as Rosaceae for the rose family from **Rosa.** Families are grouped into orders named by adding **ales** to the name of one of its genera as Rosales for the order including the rose family and some other related families. Orders are grouped into classes and classes into phyla.

7. The classification of flowering plants is largely based on the structure of the flowers. The flowers are consequently referred to in the keys more frequently than other parts of the plant.

8. A typical flower has four kinds of organs, pistils, stamens, petals and sepals. In the lower groups of both monocotyledons and dicotyledons the pistils and stamens are numerous and all the parts of the flower are separately attached to the enlarged end of the flower-stalk called the receptacle.

9. The pistils are at the center of the flower. In the lower part of the pistil, called the ovary, is a cavity or cell which contains the ovules. From the ovules the seeds are developed. The part of the walls of this cavity to which the ovules and seeds are attached is called the placenta. The stigma is the part of the pistil on which the pollen must fall in order to germinate and fertilize the ovules. It is usually borne on the end of a stalk called the style, but this may be short or wanting. The stigma is then sessile.

10. The stamens are borne around the pistils. Each consists of a stalk, called the filament, bearing anthers at the tip. In the cavities or cells of the anthers the pollen grains are produced.

11. Outside of the stamens are two series of leaf-like organs making up the perianth. The inner whorl, known as the corolla, consists of petals which are usually some other color than green. These are usuall ythe organs which make flowers attractive. The outer whorl is made up of sepals. These are usually green. When they resemble petals in color the calyx is said to be corolloid. In the bud they protect the inner more delicate organs.

12. This type of flower has been modified in various ways in the higher groups. One of these is by the omission of some of the organs. Thus one or both of the perianth whorls may be lacking. If the corolla is wanting the flower is apetalous, if the calyx is also wanting it is asepalous or achlamydeous.

13. Frequently some of the flowers lack stamens and the rest lack pistils. Such flowers are called imperfect while those having both are perfect. A flower with stamens and lacking pistils is staminate, one with pistils and larking stamens is pistillate. Staminate flowers often have rudimentary pistils and pistillate flowers rudiments of stamens. A rudimentary stamen is known as a staminodium. A flower lacking both pistils and stamens is neutral.

14. If the staminate and pistillate flowers are produced on the same individual plant it is monoecious. Indian corn in which the staminate flowers are borne in the tassel and the pistillate in the ear is a good example. In dioecious plants the staminate and pistillate flowers are on separate plants. This is the case in the cottonwood and boxelder. If some of the flowers are staminate and the rest perfect the plant is polygamous. If the staminate occur on separate plants it is polygamous-diodecious. This is the case in some grapes.

15. Modifications of the flowers is often brought about by the union of organs of the same kind. Thus the sepals may unite and the flower becomes gamosepalous, or the petals unite and it is gamopetalous. The stamen filaments may unite as is generally the case in the pea family. If they are united into one group they are monadelphous, if in two groups they are diadelphous. In most of the composites the anthers unite to form a tube around the style, i. e., they are syngenesious.

16. The pistils are often united with each other. Here all stages of union occur, from a slight union at the base to complete fusion to the stigma. When the overies are united they form a compound ovary. This can be distinguished from a single simple ovary by having several cavities or cells or by having several placentae. This will be seen in a cross-section. Often they can be distinguished by having several styles or stigmas.

17. The floral structures of one series often unite with those of adjacent series. Thus the stamens often unite with the corolla especially in gamopetalous flowers as the morning glory or the phlox.

18. In many flowers the lower part of the receptacle is expanded into a disc or hypanthium on the edge of which the perianth and stamens are borne. This structure is well shown in the strawberry blossom. This disc may grow upwards into a cup or tube as in the plum or cherry. In these it disappears after the blossom fades, but i nthe rose it is permanent and forms the flesh of the hip and in the apple where it unites with the pistils and forms the outer part of the flesh of the apple. In other plants, as in the evening primrose, it forms a tube extending beyond the ovary. When the hypanthium reaches to the top of the ovary or beyond and is adnate to it, the ovary becomes inferior, and the flower epigynous.

19. When all the members of each whorl of floral organs are alike or nearly so the flower is regular; if they differ from each other, one side of the flower being markedly different from the other it is irregular.

20. The arrangement of the flowers i. e. the inflorescence is frequently referred to in the keys. The names of the common flower clusters will be given in the glossary.

21. After fertilization the ovary developes into the fruit. The walls of the ovary form the pericarp, which consists of two layers, the inner is the endocarp the outer the exocarp. These are often quite different, for instance in the plum the exocarp is juicy forming the flesh of the fruit while the endocarp is horny and forms the shell of the pit.

22. Fruits which do not open are indehiscent, while those that open at maturity to allow tht seeds to escape are dehiscent. Most dehiscent fruits split lengthwise into valves or teeth. If they have several cavities they may open at the middle of the cavities or at the dividing walls between them. The former is called loculicidal and the latter septicidal dehiscence. If the fruit breaks regularly crosswise, the top coming off like a lid, it is circumscissile.

23. A leaf may have three distinct parts, the blade, the stalk, or petiole and the stipules. The blade is the expanded green part forming the main portion of the leaf. Leaves with more than one blade are compound. The stipules are small appendages on the sides of the petiole at its base. They are frequently wanting, or represented only by glands. The petiole may also be wanting, the leaf is then sessile.

24. In the grasses and sedges the lower part of the leaf surrounds the stem and is called the sheath, the free part of the leaf is the blade. In the grasses where the blade joins the sheath an appendage called the ligule usually extends upwards around the stem.

25. The leaves accompanying the inflorescence are often quite different from the ordinary foliage leaves both in form and size. Such modified leaves are called bracts. A whorl of bracts is called an involucre, or i fthere are secondary whorls on the branches of the inflorescence these are called involucels.

26. In the grasses the flowers are arranged in spikelets consisting of an axis, the rachilla, bearing two rows of bracts. The lowest two are empty and are known as empty scales or glumes. The rest usually bear a flower in the axil and are known as flowering scales or lemmas. Between the flower and the rachilla is another bract called the palet or palea.

27. In the composites the head is surrounded by from one to several series of bracts forming the involucre. Some of the composites have in addition to these other bracts mixed with the flowers in the head, each floret occurring in the axil of a bract. These bracts are called chaff. They occur in the sunflower.

28. Plants that live but a single season are annuals, those living two seasons are biennials, those living several to many years are perennials. Plants which do not form much woody tissue and whose stems live but a single season are herbs. Plants which form woody stems which persist from year to year are trees or shrubs. Trees differ from shrubs in being higher and having usually but a single stem while shrubs are low and often have many stems.

29. In some plants the stem is under ground and usually short. They thus appear stemless and are called acaulescent. In such plants the flower stalks come directly out of the ground and are called scapes. The dandelion is a common example.

30. All measurements are given in the metric system. For the convenience of those not familiar with this system the following table of approximate equivalents will be useful:

Metric.	English.
1 milimetre (mm.)	one-half line
1 centimetre (cm.)	two-fifths inch
1 decimetre (dm.)	four inches (3.94)
1 metre (m.)	3 feet 3.37 inches

English.	Metric.
1 line	2 millimetres
1 inch	2.5 centimetres
1 foot	3 decimetres

GLOSSARY

Numbers refer to paragraphs in the preceding part of appendix.

Aclamydeous 12
Acaulescent 29
Actinomorphic. Regular.
Acuminate. Gradually tapering to the apex.
Acute. Sharp pointed.
Adnate. Adhering to another organ of a different kind.
Alternate. With but one leaf at each node.
Ament. A bracted spike of imperfect flowers.
Annual 28
Anther 10
Anthesis. Period of flowering.
Apetalous 12
Aril. An appendage at the hilum of a seed.
Arillate. Having an aril.
Aristate. Ending in an awn or bristle.
Asepalous 12
Auricled. With ear-like lobes at the base.
Awn. A bristle-like organ.
Axil. The point of a stem just above the base of a leaf.
Axillary. Borne on an axil.
Berry. A small succulent fruit as a grape or gooseberry.
Biennial 28
Bipinnate. Twice pinnate.
Blade 23
Bract 25
Bulb. A large subterranean bud with thick flesh scales.
Bulblet. Like a bulb, but smaller and above ground.
Caducous. Falling soon after development.
Caespitose. Growing in tufts.
Callosity. A small hard swelling.
Calyx 11
Callus. A protuberance at the base of a grass spikelet.
Campanulate. Bell-shaped.
Canescent. Gray or white due to fine pubescence.
Capsule. A dry dehiscent fruit made up of several carpels.
Carpel. A simple pistil or one of the parts of a compound pistil.
Caryopsis. A dry one-seeded fruit with the pericarp adhering to the seed. A grain.
Caudate. With tail-like appendage.
Cauline. Borne on a stem.
Cell 9. 10
Chaff 27
Chartaceous. Papery.
Chlorophyll. The green coloring matter of plants.
Ciliate. With marginal hairs.
Cinerous. Grayish, ashcolored.
Circumscissile 22
Claw. Stalk of a petal.
Cleistogamous. Flowers which fertilize themselves without opening.
Coma. A tuft of hair on a seed.
Compound leaf 23
Compound ovary 17
Connate. Union of like organs.
Connective. The part of the filiament between the anther sacs.
Cordate. Heart-shaped.
Coriaceous. Leathery.
Corm. A solid bulb-shaped swelling at the base of a stem.
Corolla 11
Corolloid 11
Corona. A whorl of appendages between the corolla and the stamens.
Corymb. A convex or flat-topped flower-cluster, with the marginal flowers opening first, and the rays not arising from the same point of the axis.
Cotyledon. The first leaves of the embryo in the seed.

Crown. See corona.
Culm. The stem of a grass or sedge.
Cuspidate. Ending in a sharp point.
Cyme. A convex or flat-topped flower-cluster with the central flowers opening first, its rays not arising from the same point of the axis.
Deciduous. Falling off at the end of the growing season.
Decompound. Divided more than once.
Decumbent. Lying on the ground with only the ends ascending.
Decurrent. An organ extending upon another, as a leaf upon the stem.
Dehiscent 22
Dentate. With teeth directed outward.
Diadelphous 15
Dicarpellary. A compound pistil consisting of two carpels.
Dichotomous. Branching by forking regularly in pairs.
Diffuse. With a loosely spreading habit.
Digitate. Compound leaves with all the leaflets attached at the same point.
Dioecious 14
Disc. 18. The part of the head in the composites consisting of the tubular flowers.
Discoid. Without rays.
Dissected. Divided into numerous segments.
Dissepiment. A partition wall of a compound ovary or fruit.
Divided. Of leaves; blade cleft to the base or to the midrib.
Drupe. A fruit with a coriaceous, fibrous or fleshy exocary and a bony endocarp, as a plum.
Emarginate. With a notch at the apex.
Embryo. The young plantlet in the seed.
Endocarp 21
Endosperm. Substance inside of the seedcoats surrounding the embryo in the seed.
Entire. Edges not notched or toothed.
Epigynous 18
Erose. With irregular edges as if gnawed.
Exocarp 21
Falcate. Curved like a scythe.
Filament 10
Floccose. With tufts of wooly hairs.
Floret. A small flower in a head.
Foliaceous. Leaf-like in appearance.
Follicle. A simple dry fruit dehiscent along one suture, as that of the milkweed.
Fugaceous. Soon to fall off.
Funiculus. Stalk of a seed or ovule.
Gamopetalous 15
Gamosepalous 15
Gibbous. Swollen on one side.
Glabrate. Nearly hairless.
Glabrous. Without hairs.
Gland. A secreting organ.
Glaucous. Surface covered with a white or bluish powder as a box-elder twig.
Glume 26
Hastate. Leaves with diverging lobes at the base.
Head. A compact cluster of sessile flowers.
Herb 28
Herbacous. Leaf-like in color and texture. Like an herb.
Hilum. Point of attachment on a seed.
Hirsute. Covered with stiff, coarse hairs.
Hispid. Covered with bristly hairs.
Hyaline. Transparent or translucent.
Hypogynous 20
Hypanthium 18
Imbricated. Overlapping like shingles.
Imperfect 13
Indehiscent 22
Indurated. Hardened
Inferior ovary 18
Inflorescence. A flower cluster.
Internode. Part of a stem be-

tween two nodes.
Involucre 25
Involucel 25
Irregular 19
Keel. Lower petal of a pea-flower.
Laciniate. Divided into narrow lobes or segments.
Lanceolate. Longer than broad, as a willow leaf.
Legume. A dry fruit splitting along both sutures, as the pod of the bean or pea.
Ligulate. With a strap-shaped corolla.
Ligule 24
Lemma 26
Limb. The expanded part of a petal or corolla; as distinguished from claw or throat.
Linear. Long and narrow with nearly parallel sides.
Loment. A legume, usually constricted between the seeds, which breaks up into one-seeded joints at maturity.
Loculicidal 22
Lodicules. Rudiments of the perianth in grass flowers.
Monadelphous 15
Monoecious 15
Mucronate. With a short, sharp, abrupt tip.
Nectary. That part of the flower which secretes a sweetish fluid called nectar, which attracts insects and from which bees make honey.
Neutral 13
Node. The place on stems, often enlarged or otherwise modified, where one or more leaves are normally borne.
Nut. A one-seeded fruit with a bony indehiscent pericarp.
Nutlet. A diminutive nut.
Oblanceolate. Like lanceolate, but broadest towards the tip.
Ocrea. (Ochrea) Stipules which are united into a sheath or tube around the stem.
Ovary 9
Ovule 9
Palet. (Palea) 26
Palmate. Having lobes or leaflets that diverge from the apex of the petiole.
Panicle. A loose irregularly compound flower-cluster with pediceled flowers or spikelets.
Pappus. The modified parianth of the composites, consisting of scales, bristles, awns, etc.
Parietal. Borne on or pertaining to the wall of the ovary.
Pedicel. Stalk of a flower in a flower-cluster.
Peduncle. Stalk of a flower-cluster or of a solitary flower.
Peltate. A leaf in which the petiole is attached near the center of the blade.
Perennial 28
Perfect 13
Perfoliate. Having the leaves surrounded the stem so as to appear to be pierced by it.
Perianth 11
Pericarp 21
Perigynium. A sac-like bract enclosing the ovary and achene in Carex.
Petal 10
Petiole 23
Pilose. With soft hairs.
Pinnate. A compound leaf with the leaflets attached along both sides of a central axis.
Pinnatifid. Pinnately cleft to the middle or beyond.
Pistil 9
Pistillate 13
Placenta 9
Pollen. Spores produced in the anthers by which the ovules are fertilized.
Polygamous 14
Polygamo-dioecious 14
Polypetalous. Petals not united.
Puberulent. Covered with minute hairs.
Pubescent. Covered with short hairs.
Pubescent. Hairy; especially if the hairs are soft, short, and down-like.
Raceme. A flower-cluster consisting of a single axis bearing

pediceled flowers.
Rachilla 26
Ray. A floret in the composites with a strap-shaped corolla.
Receptacle. 8. The end of the flower-stalk to which the parts of the flower are attached. The surface on which the florets are attached in a head of flowers.
Regular 19
Retrorse. Bent backwards or downwards.
Rhizome. A horizontal underground stem.
Rootstock. A rhizome.
Rostellum. A beak-like appendage of the stigma in the orchids.
Sagittate. Shaped like an arrowhead.
Samara. A one-seeded winged fruit as that of the ash or elm.
Scabrous. Rough.
Scape 29
Scarious. Thin, dry, membranous and not green.
Secund. Bearing flowers only on one side of the axis.
Sepal 10
Septicidal 22
Serrate. With teeth projecting forward like saw-teeth.
Serrulate. Serrate with small teeth.
Sessile. Without a stalk. 9. 23.
Setose. Bristly.
Sheath 24
Silicle. A short silique.
Silique. The narrow two-valved pod of the mustards.
Sinuate. With wavy margins.
Sinus. The space between the lobes of a leaf.
Spadix. An elongated cluster of sessile flowers on a fleshy axis.
Spathe. A large bract inclosing an inflorescence.
Spatulate. Narrowed at the base with a broader rounded apex.
Spicate. Borne in spikes.
Spike. An inflorescence consisting of spikelets on a simple axis.
Spikelet 26
Squarrose. Spreading or recurved at the end.
Stamen 10
Staminodium 13
Staminate 13
Standard. The large upper petal of a pea-flower.
Stigma 9
Stipe. The stalk of a pistil or fruit by which they are attached to the receptacle.
Stipitate. Having a stipe.
Stipules 23
Stolon. A prostrate or decumbent branch which roots at the nodes, a runner.
Stoloniferous. With stolons.
Strigose. With appressed stiff hairs.
Style 9
Syngenesious 15
Terete. Circular in cross-section; round.
Thyrsus or **Thyrse.** A contracted panicle.
Tomentose. Covered with dense wooly hair.
Tuber. A short, thick enlargement of an underground branch, as the potato.
Tubercle. A knob-like outgrowth or enlargement, a callosity.
Umbel. A flower-cluster whose branches arise from the same point.
Umbellet. A secondary umbel, formed on the branches of an umbel.
Utricle. A small bladdery one-seeded fruit.
Valvate. With the edges touching, but not overlapping.
Vein. A strand of fibro-vascular tissue in a lear.
Venation. The arrangement of the veins in a leaf.
Vernation. The arrangement of leaves or parts of the parianth in the bud.
Verticillate. Arranged in whorls.
Villous. With long, soft hairs.
Whorl. A circle of leaves or other organs at a node.
Zygomorphis. Irregular.

LIST OF PRINCIPAL LOCALITIES

Figure following name indicates elevation above sea-level in feet.

Ainsworth	2521	Brown County.
Alliance	3958	Box Butte County.
Anselmo	2605	Custer County.
Arapahoe	2173	Furnas County.
Ashland	1086	Saunders County.
Aten	....	On the Missouri River in Cedar County.
Atkinson	2108	Holt County.
Bassett	2322	Rock County.
Beatrice	1265	On the Blue River in Gage County.
Bellevue	985	On the Missouri in Sarpy County.
Belmont	4493	Dawes County.
Burwell	2180	On a fork of the Loup river in Garfield County.
Callaway	2561	Custer County.
Carns	....	On the Niobrara in Keya Paha County.
Central City	1704	On the Platte in Merrick County.
Chadron	....	Dawes County.
Cody's Lake	....	In the southwestern part of Hooker County.
Crawford	3670	Dawes County.
Crete	1353	On the Blue river in Saline County.
Cuba	....	On the Niobrara river in Rock County.
Culbertson	2565	On the Republican river in Hitchcock County.
Dukeville	....	On the Niobrara in Holt County.
Ewing	1878	On the Elkhorn river in Holt County.
Fairbury	1313	On the Little Blue river in Jefferson County.
Fort Fiobrara	....	Cherry County.
Fort Robinson	3764	Dawes County.
Franklin	1817	On the Republican river in Franklin County.
Fremont	1203	Dodge County on the Platte river.
Grand Island	1868	On the Platte in Hall County.
Guide Rock	1646	On the Republican in Webster County.
Haigler	3258	Dundy County on the Arikaree.
Halsey	....	On the Loup river in Thomas County.
Hardy	1539	On the Republican in Nuckolls County.
Harrison	4849	Sioux County.
Hat Creek Basin	....	In the northern part of Sioux County.
Kearney	2152	On the Platte in Buffalo County.
Kimball	4697	On the Lodge Pole creek in Kimball County.
Lavaca	....	In the western part of Cherry County.
Lincoln	1181	Lancaster County on Salt creek.
Long Pine	2399	Brown County.

Minden	2162	Kearney County.
Mullen	3199	On the Loup river in Hooker County.
Nebraska City	961	On the Missouri in Otoe County.
Neligh	1744	On the Elkhorn in Antelope County.
Newark	2100	On the Platte in Kearney County.
Newcastle	....	In the northern part of Dixon County.
Niobrara	....	At the mouth of the Niobrara in Knox County.
Norfolk	1523	Madison County.
Norway	2910	On the Loup river in Thomas County.
North Platte	2803	Lincoln County.
Omaha	1042	On the Missouri in Douglas County.
Paddock	....	On the Niobrara in Holt County.
Plattsmouth	979	At the mouth of the Platte in Cass County.
Peru	902	On the Missouri in Nemaha County.
Pishelville	....	On the Niobrara in Knox County.
Plainview	1682	Pierce County.
Plummer Ford	....	On the Dismal river in the southwestern part of Thomas County.
Ponca	....	Dixon County.
Red Cloud	1687	On the Republican in Webster County.
Riverton	1765	On the Republican in Franklin County.
Rulo	842	On the Missouri in Richardson County.
Talmage	947	Otoe County.
Thedford	2842	On Loup river in Thomas County.
Valentine	2581	In the northeastern part of Cherry County.
Wahoo	1187	Saunders County.
Weeping Water	1075	On Weeping Water creek in Cass County.
Weigand	....	Knox County.
War Bonnet Canon.	....	In the northern part of Sioux County.
Whitney	3404	On White river in Dawes County.

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